Clinical Gynecology

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To

ALFRED ISAAC SAWYER, M.D.

Surgeon, Preceptor, Friend.

This Monograph is Affectionately
Dedicated
By the Author.

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FOREWORD.

THE series of clinical lectures which comprise this monograph were delivered at various times to the senior class of the Cleveland-Pulte Medical College, there being present in nearly all instances students and practitioners of the dominant school of medicine. Some of the lectures have previously appeared in print. They were stenographically reported and, later, edited. In the process of editing the writer has introduced from his records illustrative cases which were not presented in the clinic whenever by so doing it was possible better to emphasize the subject under consideration. It will be noted that nearly all the subjects dealt with are "border-land subjects," and should, therefore, interest the internist as well as the surgeon.

The writer desires to be entirely frank with the reader, even at the risk of seeming presumptuous, in presenting these lectures in book form to the medical profession. First of all he entertains a remote hope, although making no pretense as to their completeness, that both the internist and the surgeon may glean from them sufficient information to feel repaid for the time devoted to their perusal: this because he has expressed views not always in harmony with the modern teachings of either the internist or the radical surgeon. In other words, it has been his aim, however poorly he has gone about it, to help bridge the chasm which unfortunately has divided the medical profession into two parties. Those who have allied themselves with the first party, a larger ratio of whom are to be found in the homœopathic than in the older school, believe in surgery only as a last resort measure; while those of the second party practically ignore the presurgical conditions, which comprehend those subtle changes in the organism, either general or local, which, if arrested by suitable treatment, would many times make surgery unnecessary. Then, too, in the writer's opinion, the surgeons constituting the latter party all too often ignore post-operative factors, which can be reached only by proper constitutional and local measures. It is his observation that the highest type of surgeon is the man who has come from

the ranks of general practice, in which school he acquired both a medical and a surgical poise which makes it impossible for him to ignore the unity of the organism, thereby enabling him to differentiate between cause and effect, and to recognize the interdependence of all bodily functions and structures. His observation also leads him to believe that altogether too many men who walk directly from the class room or laboratory into a specialty cannot see beyond the one set of organs comprehended in the particular specialty adopted. The time has come for a closer correlation between the work of the specialist and that of the internist. The consummation of such a correlation has been one of the objects constantly kept in mind by the writer, not only in the following pages, but during his entire career as a clinician.

But the foregoing objects, while of the greatest importance, are not, in the writer's opinion, nearly as manifest as that of bringing about a better understanding between the several Schools of Medicine which at least claim to reject nothing in the way of therapeutics that can be of the slightest benefit to humanity. However far the three leading schools—the Regular, the Homœopathic and the Eclectic—may be from comprehending this ideal, it can at least be claimed for all of them that their educational standards are high and that all require a fundamental knowledge which should make of their members broadly educated and liberal physicians. This being so, has the time not come when the members of the respective schools should be more tolerant with one another and should honestly devote more than passing notice to the viewpoint of members of opposing schools?* As members of a great humanitarian profession it ill becomes us to do otherwise. Unfortunately the history of medicine proves only too emphatically that this spirit of tolerance and inquiry has all too often been wanting in medical polemics. From a more worldly viewpoint the necessity of co-operation on the part of the three schools was never greater than at the present time. Fads and theories and "isms," often conceived by illiterate if not unscrupulous pretenders, but which finally shape themselves into

*The Homœopathic and the Eclectic Schools have for many years interchanged views on matters medical and I shall, therefore, in the discussion under consideration, confine myself to the Regular and the Homœopathic Schools.—J. C. W.

so-called systems of cure, are almost daily springing into existence and are clamoring for legal recognition.† The writer can but believe that the Regular School is in no small degree responsible for these "drugless" and "psychic" schools of healing. For more than a decade the Regular School has in its literature and in its public clinics emphasized its belief in the inutility of drugs in curing disease. No honest member of that school will deny this accusation. In an editorial in the March, 1916, number of *American Medicine,* under the caption of "The Teaching of Therapeutics," its scholarly editor admits this and chastises the colleges in no uncertain words for their neglect in devoting to therapeutics the attention which the importance of the subject warrants, while emphasizing infinitely less important subjects. The laity are not always willing to resort to the more radical measures prescribed by the regular profession and insist upon being treated, if not in the old fashioned way by drug medication, by less radical measures than surgical, and, therefore, take altogether too kindly to some "one method" system of medicine, which may be either mechanical or psychic. The writer would not, in the discussion which is to follow, go so far as to claim that cures are not frequently wrought under these several systems. On the contrary he believes that if each of the three schools of medicine would but utilize the modicum of good to be found in these drugless schools the existence of the latter would be short lived.

The writer has no authority to speak *ex cathedra* for the Homœopathic School of Medicine. The lectures given merely reflect his own way of applying the law of similars to surgical and gynecological diseases.

However far individual members of the Homœopathic School may have departed from the fundamental principles of Homœopathy, the Homœopathic School as a school believes most sincerely

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†Doctor Daniel P. Maddux, of the Pennsylvania Examining Board, reports that no less than 34 different "sects" and "schools of medicine," largely of the drugless type, exist in Pennsylvania alone. Some of these schools require no medical preparation, others from a few months to two years. It has been estimated that the income of these practitioners is as great as that of the combined members of the Regular, Homœopathic and Eclectic practitioners who cannot, under our existing laws, qualify in less than four years.—J. C. W.

in the efficacy of drugs properly administered to prevent, cure and control disease. This thought is so paramount in the mind of every sincere believer in the law of similars, which is the basis of the Homœopathic School, that its members are desirous of having it utilized by all physicians of all schools. The writer believes that there are many men of the dominant school who would gladly avail themselves of the homœopathic system of therapeutics did they but know its utility. These men have been repelled in the past from investigating the merits of Homœopathy because, in their opinion, Homœopathy is but an "ism" conceived by a German theorist and dreamer, full of vagaries and absurdities, circumscribed in its teachings, and like all other "isms" will in time go its way fated to be supplanted by another even more visionary and absurd. It is the farthest from the writer's object to try to make converts for the Homœopathic School as a *distinct* school in the pages which are to follow. Nor does he believe that an abrogation of the Homœopathic School is either possible or advisable at the present time—certainly not until full fellowship is granted its members by the dominant school and full recognition of what has been accomplished by them in a therapeutic way made. What he does believe is that the time has come when a brief restatement of facts should go a long way toward bringing about that better understanding between all scientifically educated physicians, which is so much to be desired. With this end in view he proposes briefly to recall certain historical data regarding the life and teachings of the founder of Homœopathy.

Samuel Hahnemann, the founder of the Homœopathic School of Medicine, was born in Meissen in 1755. He was highly educated, a graduate of the University of Erlangen, and became a physician of acknowledged ability, culture and scientific attainment. He had more than a national reputation as a chemist and a scholar; he was a recognized member in good standing of the Regular profession. He published his first observations in drug provings in a well known and recognized journal of his school—Hufeland's; and it is now generally conceded that the law which he enunciated was to revolutionize the practice of medicine and pharmacy. It nevertheless remains a fact that the law of similars is still unacceptable to the great majority of medical practitioners throughout the world. The writer believes

that this is largely because it has, until comparatively recently, been utterly impossible to prove other than at the bedside the scientific basis of this law. He frankly admits that its cause was retarded by certain followers of Hahnemann who made, and are still making, unwarranted claims for Homœopathy. The writer has at no time hesitated, nor has he done so in this monograph, to emphasize what seems to him the weak points in Homœopathy. Indeed, he has no desire to sidestep the fact that Hahnemann himself emphasized certain phases of Homœopathy which time has proved entirely erroneous and even absurd. But when it is remembered that at the time the law of similars was first promulgated Regular Medicine was by its methods killing more people than it cured by the treatment then in vogue, a fact now admitted by all honest students of medical history, the members of neither school are quite justified in recalling the absurdities which characterized the evolution of the other.

Let us see how far twentieth century medicine has placed its approval on the teaching sof Samuel Hahnemann.

It is true that Haller preceded Hahnemann in demonstrating the effect of drugs upon healthy human beings.* This fact Hahnemann candidly admitted, but it was Hahnemann himself who developed the method as it is utilized to-day by all schools of medicine, and to him the credit should be given. Hahnemann made his first proving with Cinchona bark in 1790, which was the first distinct conception of the law of similars—one hundred and twenty-six years ago—at a time when the present accurate methods of diagnosis were unthought of.

While Hahnemann taught many things that are not in harmony with modern thought, in judging him and what he did he should be compared with his contemporaries, rather than with the teachers of to-day, when his ability looms large. He was a

*"Our knowledge of the physiological action of drugs is based largely upon animal experimentation. We must, however, remember that most of this work has been done on normal animals and that in therapeutics we are dealing with sick human beings; next that the nervous system even of the higher animals differs distinctly in complexity from that of man, and the same is true to a lesser degree of the other systems of the body: for instance, a dog will stand a dose of morphine much larger than that for a man if the dosage is given according to body weight." (Hoyt, Practical Therapeutics, 1914, page 21.)

thorough believer in preventive medicine; he ever emphasized the necessity of removing the cause of disease when this was possible; he recognized the limitations of drug action in the curing of disease; he clearly distinguished between medical and surgical cases and he possessed a prevision which, in the light of present day knowledge, seems almost prophetic.

Perhaps more ridicule has been directed to Hahnemann's *psoric* theory of disease than toward any other one thing pertaining to homœopathy. Hahnemann recognized a depraved constitutional state characterized by the faulty functionating of one or more of the organs concerned in the "auto-protective processes," although, of course, he knew nothing at that time of auto-protective processes as such. He attributed this condition to the suppression of external manifestation of any form of infective eruptive disease, and especially to the suppression of scabies or itch. In the light of our present knowledge, we of course know that he overemphasized the danger of destroying skin diseases by external applications, although there are not a few clinicians who do recognize such danger. But that there frequently exists a constitutional bias, or "dyscrasia" due to reduced activity of the auto-protective system, is coming more and more in evidence in the literature of all schools of medicine. Korndœrfer (*North American Journal of Homœopathy,* October, 1913) has in parallel columns shown the close similarity between the symptoms of hypothyroidia as given by Sajous in his classical work on "The Internal Secretions and the Principles of Medicine," and Hahnemann's symptoms of psora as given in his "Chronic Diseases." This comparison is so significant that I am giving it in full:

HYPOTHYROIDIA.	PSORA.
1. Mind obtuse: inability to grasp the finer points of an argument, or of a question treated in the abstract.	Inability to think or perform mental labor properly. Cannot control her thoughts.
2. Slow mental development.	
3. Uncontrollable sadness.	Sadness awakens from sleep, at night, with palpitation and anxiety. Tearful mood, weeps for hours without any known cause.
4. Melancholia.	Melancholia.
5. Maniacal excitement.	Mania. Suicidal mania.
6. Delirium.	

HYPOTHYROIDIA.	PSORA.
7. Pain in the occiput.	Pain ascending from the nape of the neck to the occiput, sometimes over the whole head. Headache worse in the morning on awaking, or in the afternoon during a rapid walk or from loud talking.
8. Migraine.	Semilateral headache. Tic douloureux.
9. Old look. Hair prematurely gray. Hair falls out in patches from the forehead and median line, later from the occiput. Hair may be coarse and brittle. Eyebrows grow thin at the outer end (eyebrows shorten).	Old look. Falling out of the hair, mostly in front, on the crown and vertex. Dryness of the hair. Scalp very scaly.
10. Skin of the face hard to the touch as in myxœdema, color waxy. May have reddish patch below each cheekbone.	Face yellowish or grayish. Skin may be dry, rough, withered; harsh to the feel.
11. Teeth, especially the molars, loosen and decay early.	Teeth become loose and decay.
12. Prone to formation of tartar on the teeth.	
13. Gums bleed easily and recede from the teeth.	Gums recede from the teeth and bleed easily. Teeth become loose.
14. Hallucinations of sight, as of small animals, &c.	Hallucinations of sight, as of flies, etc.
15. Hallucinations of hearing, as of running water; rumbling noises; tinnitus. Due to loss of vascular tone and imperfect circulation in the sensory organs.	Hallucinations of hearing, as of rushing wind; rumbling; singing; buzzing; chirping, &c.
16. Nasal voice, or husky through infiltration of the laryngeal mucosa.	Hoarseness after the least talking. Hoarseness, also aphonia after a slight cold.
17. Naso-pharyngeal mucous membrane swollen.	Nasal catarrh after the least exposure to air.
18. Tonsils liable to acute inflammation. Owing to local accumulation of germs. Deficiency of germicidal activity, phagocytic and humoral, manifests itself where protection is usually active, namely, along the mucous surfaces.	Frequent inflammation of the throat with swelling of the pharyngeal walls, swelling of the parotid glands—of the submaxillary glands—cervical glands.

HYPOTHYROIDIA.	PSORA.
19. Dyspnœa, especially on going up stairs, or on continued speaking.	Dyspnœa from motion with or without cough; from ascending even a slight incline. Suffocative attacks after midnight.
20. Palpitation (sometimes with pain).	Palpitation with anxiety.
21. Heart dilated, weak systole, occasional murmurs. The symptoms of heart and circulation are all traceable to impairment of oxidation and nutrition, the cardiac and vascular muscles suffering therefrom. The blood forming organs being also inadequately nourished anemia results, the erythrocytes are reduced to 3,000,000 or less with more or less anisocytosis. Hæmoglobin may be considerably decreased.	Heart disease.
22. Blood pressure low.	
23. Pulse weak and rapid.	
24. Liver passively congested and enlarged. Due to low vascular tension, which also explains the occurrence of varicose veins, varicocele, &c.	Inflammation of the liver. Tension and pressure in the right hypochondrium, impeding respiration and causing anxiety. Pain in the liver from touching the right side of the abdomen.
25. Biliary calculi.	
26. Constipation, due to deficient peristalsis. Impaction.	Constipation; stool retarded many days. Stool hard, as if burnt.
27. Urine high colored and scanty, occasionally containing albumen, casts, sugar or blood. Renal calculi.	Urine dark, of strong penetrating odor and quickly depositing a sediment. Red sandy sediment at times. Bloody urine. Pale sweet smelling and tasting urine in large quantities, accompanied by loss of strength and flesh; also great thirst. (Diabetes.)
28. Impotence.	Loss of sexual power.
29. Loss of sexual desire.	Loss of sexual desire (in both sexes).
30. Spermatorrhœa.	Nightly emissions.
31. Prostatic hypertrophy.	Induration and hypertrophy of the prostate.

HYPOTHYROIDIA.	PSORA.
32. Retroflexion.	Sterility without discoverable cause.
33. Amenorrhœa is common, but owing to low vascular tone particularly of the arterioles metrorrhagia may occur.	Menstruation delayed until the fifteenth or later years; or after appearing one or more times ceases again for months or even years. Metrorrhagia accompanied with much pain in the chest and abdomen and numberless nervous symptoms.
34 Severe lumbo-sacral pains with menstruation. The pains are due to deficient catabolic activity, the blood becomes laden with toxic waste products.	Severe pains in the lumbar, dorsal and cervical regions.
35. Deep seated pain between the scapulæ.	Pressive pain between the scapulæ.
36. Coccygodynia.	
37. Neuralgias.	Neuralgic pains in various parts.
38. Pains worse from rest in bed. Rest slows the oxidation process thus increasing the catabolic torpor, and consequently aggravates the pains. Activity within limits increases oxidation and consequently ameliorates pain.	Many symptoms worse at night, pains, cough, toothache, &c.
39. Hands flabby and damp.	Cold hands, or perspiration on the palms. Coldness of single parts.
40. Weakness of the knees.	While walking in the open air, sudden attacks of weakness, especially of the legs. Sudden bending of the knees.
41. Fibrillary motion of the muscles and trembling.	Sudden twitching of single muscles or limbs. Attacks of trembling of the limbs.
42. Flat-foot. May be due to relaxed interosseous muscular and ligamentous support.	The joints are easily sprained. Increased tendency to strain or overlift oneself.
43. Languid, fatigued, somnolent on rising, better as the day wears on.	In the morning on awaking feels stupid, languid; more unrefreshed and tired than on retiring at night.
44. Temperature low, complains of feeling cold, especially the extremities.	Every evening chilliness with blueness of the nails.

HYPOTHYROIDIA.	PSORA.
45. Rigidity.	Tonic contraction of the flexors.
46. Convulsions.	Convulsions. Epilepsy. Chorea.
47. Imperfect bony development, pigeon breast, narrow chest.	Softening of the bones. Curvature of the spine. Curvature of the long bones. Rachitis. Fragilitas ossium.
48. Disposition to caries.	Swelling and ulceration of the humerus, the femur, the tibia, also of the fingers and toes.

Hahnemann may, therefore, have been mistaken regarding the *cause* of that peculiar diathesis which he recognized as an important factor in the production of disease, but the foregoing tables nevertheless show his wonderful ability as a clinician and as an observer of clinical phenomena. The importance of syphilis as a causative factor of disease was especially recognized by him, as was also the danger attending gonorrhea, although he misinterpreted those dangers, believing the sequelæ were due to the suppression of the discharge rather than to the extension of the disease.

He was a firm advocate of psycho-pathology and psycho-therapeutics.

While it is true that the Jesuit, Kircher, in 1659, actually described bacteria which he saw through a primitive microscope, a classification of some of the forms of unicellular life was not attempted until 1838 when it was made by Ehrenberg (*Die Infusion Stierchen,* etc., Leipzig, 1838) ; and while it is true that the conception of "contagion" or transmission of disease from one human being to another is as old as Aristotle, and that Plenciz, of Vienna, in 1762, not only expressed a belief in the direct etiological connection between micro-organisms and some diseases, and was the first to advance the opinion that each malady had its own specific causal agent which multiplied enormously in the diseased body, the rank and file of the medical profession denied, and with no little acrimony, the possibility of germs being responsible for disease. Indeed, it was a long time after Pasteur had completed his classical studies upon the fermentation occurring in beer and wine that bacteriology was accepted by the profession in general as a science worthy of serious consideration.

The following quotation from Hahnemann's Lesser Writings published in 1825 is, therefore, interesting in showing Hahnemann's mental attitude as a scientist and thinker. After arguing that cholera is not spread by means of the atmosphere, he makes this assertion: "On board ships—in those confined spaces filled with mouldy, watery vapors—a cholera miasm finds a favorable element for its multiplication and grows into an enormously increased brood of those excessively minute, invisible living creatures so inimical to human life of which the contagious matter of cholera most probably consists." . . . Again, "The cause of this is undoubtedly the invisible cloud that hovers closely around the sailors who have remained free from the disease and which is composed of probably billions of those miasmatic animated beings which at first developed on the broad marshy banks of the tepid Ganges," etc.

So much for Hahnemann the "visionary dreamer," which the large majority of the medical profession believe him to have been. But, as the writer has already said, until comparatively recently there has been no way of proving that the law of similars is a general fact, a principle, a law of nature, except by clinical demonstration. Learned hypotheses may be brought forward to explain a fact but they still remain hypotheses. It has been impossible for the followers of Hahnemann to explain *why* a remedy which will produce certain symptoms when given to a person in health will also cause similar symptoms to disappear when administered in disease. Those of us who have for many years practised homœopathy have demonstrated to our own satisfaction in the clinic and at the bedside that it will do so within certain limitations. It is not always possible to repeat experiments in the biological sciences as can be done in chemistry and in physics. Even in the exact sciences, as we call them, which deal with facts, we touch forces that we cannot always understand. Herbert Spencer has shown that we cannot take up any problem in physics without being quickly led to some metaphysical problem which we can neither solve nor evade. If this is true of the science of physics, how much more true is it of the science of the human organism. In disease no two cases are alike, and it is impossible to make invariable deductions because of the disturbing influences of constitutional bias, race and environment. But in recent years great

strides have been made in advancing technical knowledge in the field of medicine. A better knowledge of chemistry, and particularly physiological chemistry, has brought to light an understanding of the body fluids never before attained. The ever-advancing new light in bacteriology has likewise made possible the demonstration of cause and effect in disease as never before. All the modern new sciences have contributed to our constantly increasing knowledge in the broad field of biological science. This work has largely emanated from the Regular School and the writer cheerfully acknowledges this fact.

In this place, we must confine ourselves to the influences which these advances in scientific investigation have had on the homœopathic law of cure.

The theories of Metchnikoff and Ehrlich with reference to bodily defense suggested the advent of a method for the demonstration of the truth of the law of similars. The action of the X-ray upon living tissue, both to produce and cure disease, was suggestive. These and many other evidences tended to point the way to the demonstrable proof within the laboratory of the truth of Hahnemann's contention of *Similia Similibus Curentur.*

It remained for Sir A. E. Wright to give us the first definite plan of procedure in his theory of the opsonic index. In that principle he pointed out by actual demonstration that in the blood serum there is an element which influences the conduct of certain of the white blood corpuscles in relation to bacteria. He demonstrated that the body is influenced by the action of the products of a given bacterium upon it when infected with that same germ. In a word, the body tissues react to the injury of a bacterial toxin and produce antibodies which are found in the blood stream. The blood serum under these conditions, as Wright suggests, seems to prepare the bacteria for ingestion by the leucocytes. The degree of ingestion of bacteria by the white blood corpuscles represents the index of resistance of the body against the particular infection in question.

The theory of Wright was seized upon by homœopathic laboratory workers in both Europe and America as giving a possible means of demonstrating by laboratory methods the action of drugs given according to the homœopathic principle.

In the London Homœopathic Hospital, in the University Hos-

pital (homœopathic) of the University of Michigan and in the Massachusetts Homœopathic Hospital of Boston University, work was begun simultaneously and independently along the lines suggested by Wright with the substitution of a drug in the place of a vaccine.

Dr. Charles E. Wheeler reported in the *Journal of the British Homœopathic Society* for January, 1908, that *Phosphorus* given short of its physiological action raised the opsonic index against the tubercle bacillus. Careful controls were constantly used in the technique and the greatest care was exercised in conducting the experiments.

In the same month, January, 1908, in the *University Homœopathic Observer,* Professor Claude A. Burrett, M. D., then of the Homœopathic Medical College of the University of Michigan, reported the results of experiments with *Echinacea* against staphylococcus aureus. It was found that the blood of the testers to whom *Echinacea* was given produced a positive increase in the opsonic index against staphylococcus aureus. Before administering the drug, the blood of the testers was repeatedly tested for a normal opsonic index against the bacteria in question.

Again, in the *North American Journal of Homœopathy* for July, 1909, Dr. William H. Watters, of Boston University Medical School, reported experiments with *Hepar Sulphur* against staphylococcus aureus with the same striking results.

Since those earlier experiments Dr. Ralph Mellon, Dr. Scott C. Runnels, Dr. Albert E. Hinsdale and many others have repeated the experiments, making use of different drugs and against different organisms with similar results. The drugs selected have been those which have long been used with success, clinically, in the infectious conditions for which they might be indicated. Dr. Mellon has called attention to the fact that more than one remedial agent may increase the opsonic index against a given bacterium, and this accounts for the necessity of individualizing the case and the drug which may increase bodily resistance.

The Widal reaction has been of further service in demonstrating the action of remedial agents on bodily resistance. Dr. Ralph Mellon reported in the *Medical Century,* for June, 1913, the results of a series of experiments with *Baptisia,* a remedy long successfully used by the Homœopathic School in the treat-

ment of typhoid fever. After careful preliminary Widal tests with the prover's blood serum against the typhoid bacillus, *Baptisia* was given, and after varying intervals, the Widal reaction was taken, always with controls made use of, with the result that the blood reaction became positive following the giving of this drug. These experiments were repeated and verified by Dr. Charles E. Wheeler, of London.

Dr. Sanford B. Hooker, working in the Pharmacological Laboratory of the Evans Memorial of Boston University, reports in the August, 1914, number of the *New England Medical Gazette* the results of experiments on "The Relation of Drugs to Immunity." Quoting from the summary of his report we have still further evidence of the action of drugs given short of their physiological action on bodily resistance. He summarizes as follows:

"1. In a review of the literature, numerous observations have been cited, showing that there exists considerable evidence in support of the hypothesis that many drugs in common use may directly or indirectly stimulate the human or animal organism to produce antibodies, *i. e.*, some drugs may possess antigenous properties. Citations have been made to show that tolerance to many drugs can be definitely established.

"2. It has been postulated that, excepting parasitical remedies, all drugs, if they have a curative effect upon medically curable disease, have that effect by virtue of their properties of stimulating the body to higher functional resistance.

"3. An abstract of the results of laboratory investigation upon that most important problem—the influence of drugs in stimulating the human organism to elaborate substances protective against disease—has been given.

"4. The agglutinating powers of the sera of twelve healthy human subjects have been studied in connection with B. typhosus, B. coli communis, B. alpha paratyphosus, and B. beta paratyphosus, before, during and after the ingestion of certain drugs. Each subject took one drug only, in gradually increasing doses over a period of from three to eleven weeks. The drugs investigated were *Arsenous Anhydrid, Bryonia, Hyoscyamus* and *Phosphoric Acid.*

"5. During the drug period there was a gradual rise in the

agglutinating strength of the serum usually in direct proportion to the size of the dose given, as is shown by charts and averages compiled from observations on 2,448 separate reactions. This rise may be accounted for by assuming the production of group agglutinins in greater amount than is present in normal sera. After cessation of the drug in most instances there was a moderate diminution of the agglutinin titre; some sera, however, showing a rise or a retention of the same level, four months after the drug was stopped.

"6. The influence of *Baptisia* and *Bryonia,* of *Mercuric Chlorid* and *Arsenous Anhydrid,* of *Cantharides* and *Ipecacuanha* upon the sera of eighteen healthy human subjects was investigated with regard to the presence of complement-fixing substances, presumably bacteriolysins, when experimentally placed in correspondence with typhoid and dysentery (Flexner and Shiga types) antigens, respectively.

"7. The presence of complement-fixing substances was satisfactorily demonstrated, and these substances showed rather pronounced specificity of relationship."

A most striking contribution to the study of therapeutics has been given by Dr. Albert E. Hinsdale from the Materia Medica Research Laboratory of the College of Homœopathic Medicine of the Ohio State University in the field of drug pathology. Dr. Hinsdale has secured a large variety of drug pathological tissues by giving properly selected drugs to animals, thus producing a mercurius corrosivus nephritis, a phosphorus and a bryonia pneumonia, a picric acid degeneration of the spinal cord and many other pathological conditions demonstrating the selective affinity of drugs for the tissues of the body. These observations are in line with the clinical findings in homœopathic therapeutics as practiced according to the principles of similia similibus curentur.

Finally, in vaccine therapy we have a most striking example of the law of similars. Volumes might be written setting forth the experience of scientific men of unquestioned ability in the field of vaccines and their mode of action in disease. Von Behring, Metchnikoff, Ehrlich, Koch, Ford, Wright, Sajous, Hiktoen, of the dominant school of medicine, and Wheeler, Watters, Burrett, Mellon, Runnels, Duncan and many others of the homœopathic school have repeatedly demonstrated that bacterial disease is cured

by the administration of the dead bodies of these same bacteria with the toxic products which they develop. Again, bacterial disease is prevented by the administration of these bacterial toxins in a way to produce immunity against particular germ disease.

The writer might quote pages from the pen of many scientists did space permit. The following from Professor Von Behring is representative of many such statements:

"The scientific principles of this new tuberculotherapy are yet to be established, just as the scientific principles of my antitoxic serum therapy remain to be explained, notwithstanding the assertion by many authors that the therapeutic action of my diphtheria and tetanus antitoxins is clearly understood since the promulgation of Ehrlich's side-chain theory. For speculative minds the new curative substance will undoubtedly become a most interesting object of scientific investigation, but I do not believe that medicine will profit much by it. In spite of all scientific speculations and experiments regarding small-pox vaccination, Jenner's discovery remained an erratic block in medicine, till the biochemically thinking Pasteur, devoid of all medical class-room knowledge, traced the origin of this therapeutic block to a principle which can not be better characterized than by Hahnemann's word: 'HOMŒOPATHY.'

"Indeed, what else causes the epidemiological immunity in sheep, vaccinated against anthrax, than the influence previously exerted by a virus, similar in character to that of the fatal anthrax virus? And by what technical term could we more appropriately speak of this influence, exerted by a similar virus, than by Hahnemann's word: 'HOMŒOPATHY'?"*

While only a small beginning has been made in the broad field

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*"One of the most intimate of Hahnemann's followers was a veterinary surgeon named Johannes Joseph Wilhelm Lux. He wrote a book with the title, 'The Isopathy of Contagions; or all the Contagious Diseases Carry the Means of Their Recovery in Their Very Own Infecting Matter,' (Leipzig, 1833). When I was a clinical student Germany had forgotten him altogether. * * * Some remembered him as a perfectly ridiculous or laughable or despicable person who could grow nowhere but on the soil of a sectarian medical faith. But if anybody has ever come near the idea underlying the serotherapy of modern art, it is Lux, the despised homœopath."—A. Jacobi.

of pharmacology and its relation to Homœopathy, yet it would seem that enough has been accomplished to demonstrate the value of the law of similars.

In the final analysis of laboratory deductions it may be necessary to revise the views now held by the homœopathic profession regarding the modus operandi of the action of drugs in disease. No sincere physician of whatever school will care what the final conclusions are if there but remain a trustworthy guide in the selection of drugs for given diseases which will restore the confidence of both the profession and the laity in drugs, whatever their nature, in the treatment of disease.

Provings have been and are now being made by the Homœopathic School in which all modern methods of diagnosis and investigation are utilized. There is no ignoring the fact that the homœopathic materia medica should be revised along the lines indicated. The Homœopathic Profession appeals to the laboratory workers of the Regular School to aid in this work of revision. The creation of the homœopathic materia medica as it exists to-day has required more than one hundred years of time and labor, and has for its basis the proving of drugs upon healthy human beings. If this work is of any scientific value it belongs to the entire profession. If the laboratory workers whose findings I have given are wrong in their deductions, then it is up to the laboratory workers of the Regular School to prove that this is so.

It is no longer necessary to emphasize the advantages of the *single remedy,* which is an essential corollary of Homœopathy and was first insisted upon by Hahnemann. These advantages are now recognized by physicians of all schools, although polypharmacy is yet too common a practice with many physicians to make it entirely consistent for us to speak of the "science of drug therapeutics."* Nor is it longer necessary to emphasize the ad-

*Let me again quote from Hoyt's "Practical Therapeutics," 1914. Dr. Hoyt is a distinguished member of the Regular Profession. "As has been many times intimated in this book, the modern tendency in scientific medicine is to simplicity in prescribing. Go into any up to date medical ward of a hospital and study the treatment charts. In most instances it will be apparent that the patients are receiving very few mixtures but rather single drugs with a definite physiological action."—J. C. W.

vantages of the smallest possible curative dose of a given drug when given in accordance with the law of similars. The experience of the profession with vaccines has shown the necessity of care as regards the size of the dose when either drugs or vaccines are given according to the biological law of stimuli. The regular physician will, however, be surprised to find how small the necessary dose of any curative agent is when administered in accordance with this law. The writer has never been in sympathy with the extreme wing of the Homœopathic School which has insisted so strenuously upon the advantages of the extremely minute dose, or the so-called higher potencies. He is nevertheless compelled to admit that it may be necessary for us to recast our views regarding the extreme minimum curative dose because of the newer revelations in the physical sciences. Professor Rudolph Arndt, of the University of Griefsweld, who is a distinguished biologist and probably knows nothing of Homœopathy as such, has formulated a biological law to the effect that "if strong irritants destroy vital processes minute ones favor and arouse them to the highest activity."* This biological law, if true, ought to furnish the necessary guide in determining the dose. The writer believes that physicians of the older school are altogether too much inclined to prescribe drugs in drop doses or in fractional grain doses, when administering them for their specific effect, the reaction following being in nearly all instances greater than is necessary. The decimal and centesimal system of dilution which is used in vaccine therapy, and which was adopted by Hahnemann, will be found infinitely safer and more accurate than that now in vogue in the Regular School.

Finally, let it be remembered that if the Homœopathic School became what the Regular School is pleased to term a "sect" in medicine, it was not of its own volition but because it was forced from the dominant school by the intolerance manifested when Hahnemann first promulgated his law of cure. The American Institute of Homœopathy, the recognized arbiter of matters ho-

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*If all physicians were thoroughly familiar with the *dual action* of drugs, *i. e.*, the different action of drugs in different doses on the human organism in health and disease, there would be little difficulty in harmonizing the views of the Regular and the Homœopathic Schools.—J. C. W.

mœopathic in America, has authorized the following definition of a Homœopathic Physician, which is conspicuously published in all its Transactions:

"A Homœopathic physician is one who adds to his knowledge of medicine a special knowledge of homœopathic therapeutics and observes the law of similars. All that pertains to the great field of learning is his by tradition, by inheritance, by right."

The homœopathic law relates to no agents intended to affect the organism chemically.

It relates to none required for mechanical effect simply.

It relates to none required for the development or support of the organism when in health.

It relates to none employed to remove or destroy parasites which infest or prey upon or within the human body.

It relates to none which act in a purely eliminative way to rid the system of poisons and ptomaines.

It relates to none which act in a purely physiological way as a food; and

It relates to none which act in a purely stimulative way.

If a physician educated in a Homœopathic or any other school subscribe to the foregoing, can it be fairly said of him that he is "sectarian" in his views? Cannot the progressive Homœopathic Physician whose book-shelves are filled with the standard works of the Regular School, with even greater fairness accuse his regular brothers who, with few notable exceptions, have never read a book on Homœopathy, except it were one of criticism, of being "sectarians?" The homœopathic physician limits the law of similars to its legitimate sphere of action—curing diseases which are curable by the principle of "substitution" (a term coined by Trousseau), and he is entirely free to utilize all methods of cure or relief which will best subserve the interests of his patient.

In order to show that this broad conception of the healing art, which is subscribed to by the rank and file of the homœopathic profession, is not a recent conviction on his part, the writer will conclude this preface with a quotation from an address published by him in 1902, when it was his privilege to preside over the destinies of the American Institute of Homœopathy, which is as follows:

"Personally, I believe it the duty of the physician, first to prevent disease, if possible; secondly, to cure disease which he cannot prevent, by the safest, surest and easiest method at his command; and thirdly, to bring comfort and relief to the incurable by those means which are most available and most satisfactory, whether homœopathic or otherwise. This course leaves a wide scope for the application of the homœopathic law while it broadens our conception of the healing art. We are physicians first, and homœopathists secondly."

The writer desires to acknowledge his indebtedness to Dr. J. Richey Horner for invaluable aid in preparing this monograph, and to Dr. Claude A. Burrett, of Columbus, for the laboratory data contained in this introductory chapter.

JAMES C. WOOD.

Cleveland, 1917.

Clinical Gynecology.

CHAPTER I.

DYSURIA.

Gentlemen:—The patient before you is a malnutritioned little woman, 52 years of age, who has been married for 28 years, and who has had two children, the older being 26, and the younger 19. No miscarriages. Father and mother both died of pneumonia. Six sisters and four brothers, all living except one sister who died at 65 of stomach cancer. Menstruation established at 12. Menstrual function normal until 20 years of age, when she took cold during the period. Following this exposure and up to the time the function was abrogated, she suffered from the most intense dysmenorrhea. Fifteen years ago another surgeon removed both ovaries, there being, according to her report, a dermoid cyst of one and a simple cyst of the other.

In May of 1914 she was suddenly seized with a severe pain in the bladder, followed by a discharge of blood, some pus and intense dysuria. Her physician, by irrigating the bladder twice a week with the silver solutions, markedly relieved this condition, but she still suffered from very great pain on urinating with a frequent desire to empty the bladder.

Upon local examination I found an exceedingly hyperesthetic spot at the internal os, which, when touched with a probe, caused the patient to cry out with pain. This spot is frequently present in women suffering from dysmenorrhea. I found the sphincter ani exceedingly tight, and she told me that she had most obstinate constipation with mucous stools. I am always suspicious in cases where there is a persistent discharge of mucus from the bowel, of some lesion of the gastrointestinal canal—oftener a chronic appendicitis than anything else. The clitoris is adherent, there are slight hemorrhoids with a rectal fissure and several rectal pockets. Hemaglobin 80. Blood pressure 90-112.

A cystoscopic examination of the bladder and the urethra shows a small fissure on the anterior wall of the internal urethral orifice. The change in the bladder mucous membrane is very slight, there being nothing more than a slight congestion. The urine analysis shows a few leucocytes, but insufficient in number to account for the dysuria. There are no casts and but the merest trace of albumen, which is probably due to the few leucocytes present. There are no oxalate crystals and no chemical changes of the urine sufficient to account for the dysuria.

I think then that we are justified by our process of elimination in forming the opinion that the dysuria had its beginning in some intra-abdominal infective process, the abscess communicating with the bladder. The sudden onset of the symptoms, followed by the discharge of blood and pus from the bladder, suggests very strongly the probability of this being the beginning of her trouble. Two other conditions, however, must not be lost sight of as causative factors, namely, a Neiser infection and a vesical calculus. The husband assures me that he has never had gonorrhea, and there is nothing in the microscopic examination of the slight vaginal discharge, which is still present, having the morphological appearance of gonococci. It is, of course, entirely possible that the pus, at this late date, has become sterilized and that the gonococci previously present have disappeared. This, however, is not probable. The cystoscopic examination of the bladder has eliminated the question of a calculus and has revealed to us the fissure, which I have mentioned, with slight bladder congestion. The dysuria incident to a bladder stone is somewhat peculiar in that the suffering is greatest after the bladder is emptied and the bladder walls contract upon the stone. While the examination reveals no gross lesion of the urinary organs, the patient has minor lesions sufficient to produce in one of her nervous temperament the most intense suffering. I am afraid that the question of "temperament" does not receive the consideration that it should from the vast majority of medical men. Who of you has not many times seen both men and women go through life with the most serious lesions without such lesions making a profound impression upon the organism? Who, on the other hand, has not seen, in even a greater number of instances, the most insignificant lesion create the most intense suf-

fering and distress—all depending upon the impressionability of the nerve centers. The slight fissure at the internal bladder opening has left terminal nerves exposed, which respond to a sensory stimulus as soon as the bladder contains urine, and when an effort is made to empty the organ a tenesmus is created. More remotely we have, as causative factors, the hyperesthetic spot at the internal os, the adhesions of the clitoris, and the rectal irritation with constipation—all tending in a reflex way to aggravate the dysuria.

Inasmuch as the patient has been under local and general treatment for a long time without relief, and inasmuch as her suffering is making such a profound impression upon her nervous system, I have deemed it wise to place her in the hospital, dilate the urethra in order to overcome the fissure, dilate the cervical canal and apply to the tender area pure carbolic acid, dilate the rectum and remove the papillæ and pockets present, and overcome the adhesions of the clitoris. I shall keep her in the hospital for at least three weeks, wash the bladder twice a day with a saturated boric acid solution, leaving behind in the bladder two ounces of a five per cent. solution of Protargol. I shall, in addition, give her, because of the intolerable urging to urinate from which she is suffering, and because of the violent paroxysms of cutting and burning pain with intense tenesmus and hot, scalding sensation during urination, Cantharis 3x, every two hours.

Remarks.—Dysuria, or painful urination, as a symptom is one most frequently met with by the general practitioner, and because of the fact that the disease is located in or about the bladder or the urethral mucous membrane it is impossible to utilize in its treatment the principle of physiological rest. Its pathological significance, so far as gross lesions are concerned, may be slight, but its clinical importance must not be lost sight of. I know of no symptom which will more quickly undermine the health of either a man or a woman than a bladder irritation sufficiently great to give rise to a frequent desire to empty the organ, with coincident tenesmus. I have many times seen the health and the nervous system completely undermined by dysuria, which not only requires the patient to empty the bladder several times during the day, but breaks her rest several times

during the night for the same purpose. It may be unnecessary in the milder cases of dysuria to resort to a thorough physical examination, which comprehends a cystoscopic exploration of the bladder and the urethra; or the catheterization of the ureters. Indeed, in the majority of instances all that is necessary is the correction of the diet, the ingestion of a large amount of water, and the administration of the properly indicated remedy. The thought that I especially desire to emphasize is that where the simpler measures fail a more careful search for the cause should be instigated, and if found removed if possible. I do not think that the majority of general practitioners resort to cystoscopic examinations. Indeed, it requires constant practice, no little skill, and the greatest care to make it safe and of much avail. On the other hand, all up-to-date general practitioners are able carefully to examine the urine, which, of course, comprehends the use of the microscope. In lithemic cases the urine will often be found too acid or too concentrated, in which case the consumption of a large quantity of pure, soft water should be recommended. In acute and chronic nephritis an examination of the urine will reveal the presence of blood, casts, albumen, etc. In rare instances it may be due to the ingestion or absorption through the skin of Cantharides or Turpentine—which is of no little significance to the homœopathic practitioner. It is perhaps, oftener due to a bladder infection or cystitis than to any other cause—the infection having its origin either from above through the ureteral canals, from below through the urethra, from some foreign body in the bladder, or possibly from an infection starting within the abdomen or the lower intestinal canal. In order to determine the source of the infection in these cases it may be necessary, in addition to the ordinary examination of the urine, to resort to a bacteriological examination. I once removed from the bladder of a masturbating girl a good sized cork to which was attached a nail, which had been introduced into the urethra for the purpose of creating sexual exitement. Ulceration of the bladder and tubercular disease are comparatively rare, but should not be lost sight of in looking for causes of the dysuria, especially in tubercular subjects. Adventitious growths—cancer, polypi, fungoid growths, etc.,—sometimes give

rise to great distress on urinating, with hematuria. I once had to do with a urethral prolapse as large as a pigeon's egg, which caused the most distressing suffering on urinating.* The condition was entirely relieved by amputating the lower end of the urethra. Vesical calculi give rise not only to dysuria, but very frequently to a severe chronic cystitis, and should always be thought of if there is a history of sudden stoppage of the stream of urine, the pain always being worse when the bladder is empty. It must not be forgotten that women, as well as men, have urethral strictures, and I have many times relieved distressing dysuria in women by dilating the canal with graduated sounds dipped in a ten per cent. ichthyol solution of glycerin. This treatment may be all that is necessary to relieve dysuria due to slight fissures of the urethra. Malposition of the uterus, particularly where there has been an old pelvic inflammation involving the utero-sacral ligaments with retraction, thus putting the neck of the bladder on the stretch, is often responsible for distressing dysuria. The treatment, when this is the cause, must necessarily be directed toward the stretching of these ligaments by proper massage and tamponing.

Nor must it be forgotten that the first symptom of cancer of the cervix may be dysuria and bladder inflammation. In one case coming under my observation the patient sought relief only because of urinary incontinence due to a malignant perforation connecting the bladder with the vagina, having its origin in the cervix, which had become entirely destroyed. Neither the patient nor her physician had mistrusted her serious condition until she came to me. In other words, the suffering incident to the last stages of cancer is largely because of infiltration of adjacent structures with the squeezing of terminal nerve fibres, which was not serious in this case, the destruction of tissue being an early, rather than a late, symptom. In women who have borne children injuries to the cervix with subsequent displacement of the uterus and prolapse of the bladder in the form of a cystocele, so that residual urine is left behind, may in time result in inflammation. Enterocolitis, with mucous colic, may be associated with dysuria. Butler† records a case where there was so much vesical

*Author's text-book of Gynæcology, 2d edition, p. 537.

†Butler's Diagnostics of Internal Medicine, page 140.

tenesmus with a discharge of blood and mucus that suspicions of malignancy were entertained until a cystoscopic examination revealed nothing but a coating of mucus on the inner lining of the organ. A dysuria may occur as a vesical crisis of locomotor ataxia. Irritability and neuralgia of the bladder are not uncommon subjective symptoms in neurotic women and are not infrequently accompanied with vesical pain and spasm—a condition which is usually relieved by the administration of Magnesia Phos. in one of the lower triturations. In neurotic patients, too, pain in the region of the bladder is not infrequently reflected from the rectum, from the cervical canal, from the clitoris, and from the perineum, where there is a perineal abscess—hence in all instances these lesions should be sought for and overcome if present.

When a determining physical examination seems wise it should begin with, first, a bacteriologic examination of the pus from the urethra and from the vagina, and a careful analysis of a catheterized specimen of urine. The pus from the urethra is best secured by separating the labia and by milking the canal from within outwards with the index finger of the right hand, the external meatus being first carefully cleansed with absorbent cotton dipped in the normal salt solution. By means of a sterile platinum wire a culture is obtained from near the external meatus. In cases of acute cystitis the greatest possible care should be observed in making a cystoscopic examination; indeed a cystoscopic examination is here contra-indicated. In chronic cases, however, nothing short of a cystoscopic examination can determine the exact nature of the interior of the bladder and the urethral canal, when the ureteral bladder orifices can be brought into view and ureters catheterized, if necessary, in order to determine whether or not the infection comes from above. Not infrequently, especially in specific cases, Skene's glands will be found infected, in which event the attacks of chronic urethritis and chronic cystitis are of common recurrence. Exposure of the external meatus will, when these glands are involved, reveal a swollen, pouting condition of the urethral mucosa with a small punctate red spot on either side of the external

meatus corresponding to the external openings of the glands. Sometimes small abscesses form when these ducts become occluded. If not occluded, it is possible to force a drop of pus from one or both of the canals. When the ducts are open they should be injected by means of a blunt hypodermic syringe with a 20 or 25 per cent. solution of Argyrol. This injection should be repeated every few days until the patient is entirely relieved, or until it is evident that the treatment is futile. In obstinate cases, especially if the ducts are occluded, it may be necessary to lay them open in order to obtain perfect drainage. This can be done painlessly in the office by injecting into them a few drops of a two per cent. solution of cocaine, followed by the application of a small keen cutting scalpel.

The successful treatment of chronic cystitis requires time, perseverance, and a very large degree of patience. Physiological rest, as has been intimated, is impossible because of the constant drain of urine into the bladder. The nearest approach to it is the creation of a vesico-vaginal fistula large enough to permit the urine to drain into the vagina as soon as it finds its way into the bladder. In old chronic cases, where the bladder wall is very much thickened, this procedure is, at times, imperative, and will afford so much relief that patients very frequently hesitate to have the created fistula closed. The operation can be done under cocaine with but little pain or shock. The patient is placed either in the semi-prone or in the lithotomy position and the anterior vaginal wall exposed by means of a suitable retractor. The bladder is first irrigated with a saturated Boric acid solution and a medium sized male sound passed through the urethra, turned, and the point made to force the vesico-vaginal septum into the vagina. The opening is made in the median line laterally and about half way between the internal meatus and the cervix longitudinally. It should be at least an inch and a half long in order to afford perfect drainage. It will spontaneously close in a few days, unless the mucous membrane of the bladder is stitched to the mucous membrane of the vagina. After the opening is made the bladder can be irrigated either through the opening or through the urethra, the irrigating fluid escaping readily into the vagina. The opening can be easily closed when the cystitis is cured, under local anesthesia.

In the milder cases so radical a measure is uncalled for and usually the condition can be controlled through ordinary bladder irrigations. Inasmuch, however, as these irrigations should be made at least once and, preferably, twice a day in order to accomplish much good, it is better to place the patient in the hospital, unless, indeed, the physician has at his command a trained and careful nurse; or unless he has the time to carry out the treatment himself. One or two irrigations a week are of but little avail. Complicated paraphernalia for the purpose are unnecessary. All that is needed is a douche bag or a douche can which can be sterilized by boiling, with three or four feet of rubber tubing, a glass or a soft catheter, all of which should be sterilized, and the necessary irrigating solutions. In simple cases of cystitis and urethritis, there is nothing better for this purpose than a saturated solution of Boric acid. The water, of course, must be thoroughly sterilized by boiling, must be kept in absolutely clean receptacles, and the catheter and irrigating bag and tubing must be boiled each time before the irrigation. The hands must be sterile and the external meatus carefully washed with the normal salt solution before the catheter is introduced. A reflux catheter is a convenience, but not a necessity. All that it is necessary to do in lieu of a reflux catheter is to detach the rubber tubing from the catheter and let the bladder empty itself, after which the tube is again slipped over the catheter and the bladder filled; or the upper end of the tubing can be attached to a large glass funnel and the water poured into this from a pitcher, the fluid being permitted to escape by lowering the funnel when the bladder is full. Care should be taken not to distend the bladder to too great a degree. As soon as the patient complains of distress the water should be permitted to escape, after which the bladder is refilled and this is continued until the irrigating fluid comes away clear—which is usually the case after four or five irrigations. After the bladder is thoroughly cleansed two ounces of a five per cent. solution of Argyrol should be left behind. If the urethra is especially sensitive, a one grain Ichthyol suppository is useful.

In all instances where the urine is much changed chemically the condition should be overcome by a properly selected diet

and by the administration of some of the mineral waters. Milk, especially buttermilk, is nearly always a useful and an easily applied diet. Emollient drinks, like flaxseed and slippery elm tea, are beneficial. The excessive use of meat should be avoided and alcoholic liquors and condiments of all kinds entirely eliminated.

HOMŒOPATHIC THERAPEUTICS OF DYSURIA.

The following remedies are the ones oftener indicated in the treatment of dysuria:

Cantharis.—Intolerable urging to urinate with violent paroxysms of cutting and burning pain in the bladder and the urethra; severe tenesmus with hot scalding sensation during urination.

Potter, of the older school, says of *Cantharis* under "Physiological Action:" "Internally, *Cantharis* is an irritant causing heat of the stomach, gastralgia, nausea and vomiting, the circulation is stimulated, the temperature elevated, the urine becomes scanty and irritating, is voided with difficulty and pain, and often contains blood and albumen." Under the head of "Therapeutics," he says: "As an internal remedy *Cantharis* must be employed in very small doses (mj of the tincture) in order to be efficient. When so used it is an admirable agent in acute desquamative nephritis, after the active inflammation and fever have subsided, to reduce the albumen and blood in the urine. Drop-doses are particularly useful in irritable bladder with frequent desire to micturate so often observed in women, also in the incontinence of the aged and of children; and in cystitis, gonorrhea and gleet."

Aconite.—In acute cystitis, urethritis; mental anxiety, restlessness and fever; the urine is scanty, red, hot, painful; burning in the urethra with bladder tenesmus; anxious always on beginning to urinate.

Belladonna.—Urine scanty, dark and turbid and not infrequently loaded with phosphates; bladder and urethral tenesmus; vesical region sensitive; incontinence; continuous dropping; sudden, darting pains.

Terebinthina.—Strangury, with bloody urine; scanty, suppressed; odor of violets; constant tenesmus. I again quote from

Potter. Under the head of "Physiological Action," he says: "Large doses produce gastro-enteritis, with vomiting and diarrhea, suppression of the urine, pain in the lumbar region, burning in the urethra, hematuria and strangury." Under the head of "Therapeutics," he says: "It is useful in chronic cystitis, subacute gonorrhea, and similar affections of mucous surfaces generally."

Cannabis Indica.—Urine loaded with slimy mucus; dribbling of urine with much straining. Stitches and burning in urethra; dullness in the region of the right kidney.

Mercurius Corrosivus.—Intense burning in urethra; urine scanty or suppressed; albuminous urine not infrequently associated with rectal tenesmus. Bright's disease; especially useful in gonorrheal urethritis or cystitis.

Ammonium Benzoicum.—Especially useful in dysuria with albuminuria, where the urine is smoky and the patient is of a gouty diathesis. Pain across the sacrum with urgency to stool.

Uranium Nitricum.—Copious urination; incontinence of urine; especially useful in diabetic conditions with excessive thirst. Emaciation; burning in the urethra with acid urine; unable to retain urine without pain.

In addition to the foregoing, Urotropin is of decided value, where there is ammoniacal decomposition of urine, in inhibiting the growth of micro-organisms. Ten grains should be given in water, three times a day. Care should be taken not to give more than this, for it is liable to aggravate the symptoms.

CONCLUSIONS.

1. Dysuria or painful urination in women is often of great obstinacy, and is a symptom of many functional and pathological conditions.

2. When it persists for any length of time the *cause* should be systematically and carefully sought for. Too much reliance must not be placed upon the absence of gonococci in determining the primary source of the infection, for gonococci are not infrequently absent after the acute symptoms of specific inflammation have subsided.

3. In the treatment of simple cases of dysuria all that is necessary in the larger number of instances is the correction

of the patient's habits, the selection of a proper diet, and the administration of a well chosen internal remedy. In obstinate cases, however, the physician's resources are frequently taxed to the utmost. Recognized lesions should be overcome. Bladder irrigations and local treatment of the bladder and the urethra are often of the greatest service. In the very worst cases with marked changes and thickening of the bladder walls, vaginal drainage may become imperative.

CHAPTER II.

DYSMENORRHEA.

This patient is 27 years of age. Except for the fact that an uncle died of tuberculosis the family history is negative. Menstruation established at fourteen, which function was entirely normal for two years, when she fell from a horse and dysmenorrhea of the most excruciating type developed. The pain begins before the flow, is of a bearing down character, and the discharge contains both membranes and clots. The pain continues for four days, during which time she is confined to her bed. The amount of blood lost is always excessive. Seven years ago she had, by a most able specialist, a thorough divulsion and curettage. She obtained no permanent relief from this procedure, nor from the general and local treatment which preceded and followed it. There is a very bad, offensive leucorrhea of the mucous variety, which she says is made worse by exercise and mental excitement. There is a constant soreness through the pelvis which is aggravated by exercise and motion. She has a good deal of indigestion with gaseous distention of the bowels and is constipated. There is more or less mucus in the stools and the hands and feet are cold and clammy. Her skin is rough and her face, as you see, covered with acne.

Physical examination shows slight enlargement of the thyroid, the pulse normal, blood pressure 110-120. The uterus is sharply retroflexed and the right ovary enlarged, prolapsed and exceedingly sensitive. The left ovary is apparently normal as far as size is concerned; only an abdominal exploration can determine further than this. There is a bad endocervicitis and a granular vaginitis.

I shall repeat the divulsion and the curettage, applying iodin to the entire endometrium and pack the uterine cavity with iodoform gauze. I shall overcome the slight adhesions of the clitoris present and thoroughly dilate the rectum. I shall next open the abdomen through a short median incision. First exploring the appendix, I find it elongated and thickened, and shall, therefore, remove it. I find that the right ovary is a mere shell, at least

three times its normal size, and I shall, therefore, remove this ovary, being careful not to tie the pedicle en masse, preferring to secure the individual vessels in separate ligatures in order not to unnecessarily pinch the nerves distributed to the ovary. Inasmuch as the tube is healthy I shall leave it behind. The left ovary is slightly cirrhotic, but it is my judgment that it should not be removed, especially inasmuch as the patient has agreed to take all chances on its giving future trouble. I shall hold the uterus in front by the Kelly modification of the internal Alexander operation, which consists of bringing the round ligaments through a puncture wound in each rectus muscle and underlying peritoneum, stitching with fine Pagenstecker each ligament underneath the fascia of the opposite side, so that they are crossed in such a way as to bring their peritoneal surface in contact the one with the other. I shall use an additional Pagenstecker to stitch them together in the median line. I shall next close the peritoneum with a running catgut suture, turning the edges of the same upward in order to leave a perfectly smooth border within the abdomen, thereby making adhesions between the intestines, uterus and peritoneum less liable to form. I shall use three silk worm gut tension sutures passed through all the tissues of the abdominal wall, except the peritoneum. I shall next close the fascia with a running No. 2 chromic gut suture, and finally close the skin between the tension sutures with Michel clips.

Remarks.—Notwithstanding that the first divulsion and curettage failed to give anything more than temporary relief, I deemed it best to again perform the same procedures because of the endocervicitis and the endometritis present, as well as the offensive leucorrhea, which is doubtless due to the endometritis and imperfect drainage of the uterus. The trouble with the first operation, assuming that the divulsion was thorough, was that the more serious lesions within the pelvis were left behind, which perpetuated the dysmenorrhea. It was utterly impossible for the patient to get well with her uterus retroflexed and an enlarged and diseased ovary under its fundus. Then, too, the patient's general health is undoubtedly seriously involved by her indigestion and the autointoxication which is invariably associated with chronic appendicitis. I shall at another time devote an entire

lecture to this subject because of its great importance. Suffice it to say that in a case presenting the symptom complex which characterizes this case no one single operation is sufficient to bring about a complete cure. We are living in an era of multiple operations at one sitting. The patient has so many symptoms suggesting that she is being constantly poisoned by the resorption of toxins from the gastro-intestinal canal that I should have considered divulsion alone a most useless expedient. Gastro-intestinal autointoxication is manifested not only by the indigestion and the gaseous distention present but by the mucous discharge from the bowel, by the acne of the face, by the rough and dry skin and by the enlargement of the thyroid. I shall be most surprised and disappointed if what I have done does not give the patient entire relief. Possibly this relief will not take place at once, although the patient is not at all shocked. Still with her nervous temperament it may take some little time for her complete convalescence. This fact I impressed upon her previous to the operation. I always, when suspicious that both ovaries are affected and the patient especially desires to have one or both conserved, emphasize the fact that subsequent trouble may arise from such conservation if one or both ovaries are more or less diseased. In this particular case, however, I am led to believe that the correction of the displaced uterus, thereby relieving the uterine and pelvic congestion, will make it completely safe to leave the left ovary behind.

This patient came to me from a neighboring city because of her dysmenorrhea. Some of you who are better prescribers than I may think that the radical work done was too radical for a case of dysmenorrhea. You must, however, remember that the patient has for eleven years been under the care of most excellent physicians and prescribers, and has exhausted almost every constitutional and palliative measure known to medical science. The specialist is possibly inclined to operate too often; at least he is so accused. But I will ask you to remember that in nearly every case that finds its way into the specialist's office the ordinary medical measures have been exhausted, and that the patient comes to him because of that fact. I can remember but one case where I deliberately removed ovaries that were seemingly normal for the purpose of overcoming dysmenorrhea. That case was re-

ferred to me by the late Dr. D. H. Beckwith, and was operated more than fifteen years ago. The patient had been divulsed four or five times and had been prescribed for by most excellent prescribers of both schools of medicine; she nevertheless continued to suffer so intensely that she was almost driven insane for one week during each month. She was a most charming girl, 26 years of age, and as a last resort the ovaries were removed. The function of menstruation was entirely abrogated and the patient, after she had passed through the usual changes incident to a forced menopause, enjoyed perfect health.

In operating upon the ovaries there are, of course, numerous factors to be taken into consideration. Only yesterday I operated a girl, also 26 years of age, who was referred to me by Dr. Clara K. Clendon, of Cleveland. Five years ago she had an attack of what was diagnosed "appendicitis." Following her recovery from this attack she was fairly well until four days ago when she was taken with a severe pain in the abdomen which localized itself in the lower pelvis and over the region of the appendix, the temperature reaching 102.5° F. I saw her first in consultation on the evening preceding the operation. She had for four days been menstruating with a great deal of pain, which had always characterized her menstrual periods. Examination per vaginam showed a nasty boggy mass in the right side of the pelvis, which was exquisitely tender. There was some tenderness, though not marked, over the region of the appendix. The bowels had been moving freely. There was nothing in the family history to indicate tuberculosis. The leucocyte count at this time was 19,500. In this case I also did a thorough divulsion and curettage and applied iodin to the endometrium, leaving behind a gauze pack. I then, after the vagina had been thoroughly cleansed, opened the abdomen through a long incision in the Trendelenburg posture. The omentum was plastered over the pelvis, having attached itself to nearly all of the pelvic viscera. The omentum was tied off and the appendix, which was thickened and kinked, removed in the usual way. The intestines and the entire peritoneum were much congested and covered with what looked like miliary tubercles. The right tube was distended with pus, the ovaries being deep in the cul-de-sac of Douglas. This ruptured during delivery, the pus being exceedingly offensive. The right tube and

ovary were tied off with catgut. The left tube and ovary were also involved and, because of the tubercular appearance, I deemed it best to remove them. Vaginal drainage was established with iodoform gauze, and the abdomen closed in the usual way.

We must then, in dealing with the ovaries, be governed by the pathological aspect of the case in hand. Since we have learned more of the internal secretions no surgeon will deliberately sacrifice an ovary if it is possible to save it. The question of conservative surgery of the ovaries is one regarding which there is a vast difference of opinion. Personally, I am inclined to believe that unless the patient is exceedingly anxious to have children and insists that every opportunity should be given her to have them, it is better either to remove the entire ovary when diseased or to remove no portion of it. I have so often seen trouble follow the removal of a part of an ovary that I hesitate to take the chances attending the practice. I have seen, however, in a few instances conception follow when but a small portion of one ovary had been left behind.

It will, therefore, be seen that dysmenorrhea is a *symptom* of many conditions and not a disease *per se*. If we are to treat it intelligently, we must accordingly direct our treatment to the condition or the conditions responsible for painful menstruation. The varieties of dysmenorrhea, namely, neuralgic, ovarian, congestive or inflammatory, obstructive and membranous, given by the older authorities, serve the purpose of calling attention to the many possible causes of painful menstruation.

Few patients menstruate without a certain degree of suffering; according to Ernst Herman 40 per cent. of all menstruating women are victims of dysmenorrhea of greater or less severity. The exact cause of menstrual pain is a mooted question. Whether it be due to the engorgement of the endometrium, which excites the uterus to contract, to a tetanic contraction of the uterine sphincter, or to a hypoplasia of the uterine musculature (Schultze) is a question not easily decided. The chances are that more than one cause is responsible for the pain, for we find that two or more varieties blend with one another so intimately as to make differentiation impossible.

In so-called *neuralgic dysmenorrhea* there will be found usually what, for want of a better term, we call the "neuralgic diathesis."

This simply means that in some women there is a peculiar state of the system which renders the victims liable to sudden attacks of pain in various organs of the body. Frequently there is a rheumatic or gouty basis to the difficulty; or the patient's general health may have become depreciated by anemia, chlorosis or malaria. The victims are often women who lead a sedentary or luxurious life, and not infrequently sexual irregularities complicate matters. Painful menstruation is not the only expression of the peculiar constitutional bias: gastralgia, cardialgia, migraine and other neuralgic manifestations are liable to occur from time to time, particularly if the patient has been subjected to excesses or undue exposure of any kind. The occurrence of the pain relative to the flow is variable. It may set in before, during or after the flow, and usually is not constant but comes and goes in quick succession, finally vanishing as suddenly as it appears, and the patient passes from a state of acute suffering to one of comparative comfort.

Ovarian dysmenorrhea, as the name suggests, is due to some interference with ovulation. The pain in this type of dysmenorrhea usually occurs and persists for some days preceding the onset of the flow, and is limited to one or both ovarian regions, oftener the left. Not infrequently it extends down the corresponding thigh, and there may be a reflex pain in the breast or nipple. These patients sometimes have what the Germans call "Mittleschmertz," or an intermenstrual pain in the region of one or both ovaries which is probably due, as Priestly believed, to ovulation without menstruation. Heaney says that when the "Mittleschmertz" is present the patients are nearly always the victims of leucorrhea, and usually are also sterile. In one of my cases this intermenstrual pain occurred on the fourteenth day after menstruation; in another on the twelfth—in each instance persisting for several days. Not infrequently there will be found in ovarian dysmenorrhea enlargement, tenderness and prolapse of one or both ovaries. The prognosis without surgical work must always be guarded for the reason that so long as menstruation continues the ovaries are subjected to a periodical congestion which makes it exceedingly difficult to cure existing irritation or inflammation. The nearest approach to physiological rest which can be given these patients is found in pregnancy and lac-

tation; but unfortunately ovarian dysmenorrhea occurs quite as often in the unmarried as in the married, and the victims are frequently sterile. Nevertheless, the prognosis under treatment which brings to the patient a class of remedies not utilized by the older school is by no means as sinister as the writers of that school would lead us to believe.

Congestive and inflammatory dysmenorrhea is, as the name suggests, associated with either congestion or inflammation of the uterus and the pelvic organs. Not infrequently the dysmenorrhea is precipitated by exposure to cold during menstruation, getting the feet wet, etc. The symptoms will depend upon the degree of inflammation present. When it is marked, there is more or less constitutional disturbance—rise of temperature, increased frequency of the heart's action and intra-arterial pressure with headache, nervous phenomena, etc.

We note, then, as distinguishing features of this form of dysmenorrhea: 1. The sudden onset of the pain with more or less complete suppression of the flow. 2. The constitutional impression, which is sometimes profound. 3. The evidences of local tenderness and of lesions obtained by physical exploration. The progress will depend upon the degree of havoc wrought by the inflammatory process which has swept through the pelvis. Very often, if inflammatory exudates are left behind, surgical measures are necessary before a cure is possible.

In the *obstructive* type of dysmenorrhea there is some obstruction either in the cervical canal or in the vaginal outlet, interfering with the exit of the menstrual discharge—flexions, polypi, tumors and vaginal occlusions of various kinds being oftener the cause than anything else. Spasm of the circular muscular fibres in the region of the internal os is often responsible for the suffering. I have but recently had under observation a patient 49 years of age who ceased to menstruate five months ago. She has had, however, at intervals corresponding to the menstrual cycle, attacks of most intense suffering, the last occurring some ten days ago, when the pain was so severe that full doses of morphine failed to relieve it. Finally there was passed several ounces of thick grumous blood. I found upon examination that the uterus was much enlarged and that the cervix was so dilated that it distended the upper part of the vagina. The uterus

corresponded in size to that of a woman four months pregnant. I had operated her twenty-one years previously for laceration of the cervix and perineum. There had developed in this case a mucous polypus as large as a walnut which completely filled the cervical canal, thereby distending the uterine cavity with the menstrual blood, which could not escape (hematometra). I removed the polypus, liberated a large quantity of grumous blood, irrigated and packed the cavity with iodoform gauze. The patient was immediately relieved and made an ideal convalescence.

Flexions are more often the cause of obstruction than anything else, and it is probable that with the flexion there is more or less spasm of the sphincter uteri. Not infrequently there will be found in these cases, as well as in the neuralgic type, a most exquisitely sensitive spot at the internal os. Often the neuralgic, as well as the obstructive type of dysmenorrhea, can be relieved by applying to this spot, in the office, after first cocainizing the parts, pure carbolic acid. This should be repeated at least two or three times during the inter-menstrual period.

The intermittent character of the pain coming and going at regular intervals, relieved by the free discharge of blood which often contains clots, suggests the nature of the dysmenorrhea. In all instances where these symptoms are present a thorough physical examination should be made. The prognosis is usually favorable, and it is in this class of cases where divulsion does the most good.

In membranous dysmenorrhea organized material is expelled from the uterus at each menstrual period. Williams contends that membranes are expelled much oftener by menstruating women than is suspected. He has found in three-fourths of the cases of dysmenorrhea particles of membrane which are ordinarily overlooked because of their small size. The material consists of menstrual decidua, which is thrown off in sections or *en masse* with a triangular sac resembling a cast of the uterine cavity. There is a wide difference of opinion regarding the nature and the cause of this peculiar process. Williams, who has devoted much time to its elucidation, believes that there is an excess of fibrous tissue in the walls of the uterus; this being due to imperfect evolution after parturition or abortion, or being the product of acute inflammation. The symptoms resemble the symptoms

of early abortion. The pains are labor-like, bearing down, coming and going with more or less regularity, increasing in intensity until finally the expulsion of a large clot whose nucleus is a piece of membrane, or the expulsion of the whole lining of the uterine body, affords relief. The suffering is usually most intense, giving rise at times to delirium and even to convulsions. These patients are frequently not well during the inter-menstrual period, suffering from leucorrhea, endometritis, weariness, with pain in the back and abdomen and down the inner side of the thighs.

Care must be taken in differentiating membranous dysmenorrhea from early abortion, casts from the vagina, casts from the bladder and pelves of the kidney and blood polypi. The *prognosis* must always be guarded.

THE TREATMENT OF DYSMENORRHEA.

First of all our efforts should be directed toward removing the *cause* of the dysmenorrhea, whether that cause be local or general. In neuralgic dysmenorrhea the anemia, chlorosis, rheumatism, malaria, or the hysterical diathesis ought to receive especial attention. A properly selected diet, out-door exercise, sea bathing if possible, or the daily hot bath, are of great importance. Especial care should be taken that the patient is not unduly exposed to cold. Many times a flannel worn next to the body, where there is much sensitiveness to climatic changes, will prove advantageous. Another agent which I am afraid is being altogether too much neglected is electricity. It is quite the fashion, in this age of operative furore, to dismiss electricity as a therapeutic agent in the diseases of women as of little or no value. If it be true that there is present in many of the victims of painful menstruation hyperesthesia of the uterine mucosa and the uterine musculature because of nutritive disturbance, which involves the nerve terminals of the uterus and the pelvis, it stands to reason that electricity locally applied ought to be of great service. At any rate girls and women the victims of dysmenorrhea not infrequently have undersized or undeveloped uteri. Anything, therefore, that will bring about the desired nutritive changes in the uterus ought to prove useful. But electricity must be intelligently applied. If the cervical canal is contracted or obstructed because

of flexion, the negative galvanic pole should be carried into the cervical canal well above the internal os and a current of from ten to fifteen milliamperes applied for from five to ten minutes. If there is marked hyperesthesia, and especially if there is menorrhagia, this should be followed by the application of the positive current for the same length of time.

Another agent which is of immense value in neuralgic dysmenorrhea, but which must be used with the greatest possible caution, is vibration. I believe that I have relieved more cases of dysmenorrhea with vibration than with any other one agent. It should be applied through the vagina by means of a soft rubber vibratrode. The greatest objection to vibration thus applied is that in over-sensitive patients it is liable to cause sexual excitement. This must be carefully watched for in its application and the treatment discontinued immediately upon any manifestations of such excitement. Indeed, in certain patients it should never be resorted to. If, however, the finer vibrations are used and the vibratrode is kept well back from the clitoris, there is but little danger of causing such excitement. Following the vaginal use of the vibrator it should be applied to the spine, especially over the genito-spinal center, for a few moments. I am inclined to think that the benefit derived from vibration is due entirely to the improved nutrition of the uterus resulting because of its mechanical effect.

Neuralgic patients are so exceedingly sensitive to cold that even the internal remedy should be administered in warm water. During the paroxysms of pain heat in the form of hot applications, hot sitz baths and hot douches will be found most useful, especially if the flow is suppressed or scant.

In *ovarian dysmenorrhea* the cause tending to keep up the ovarian irritation should, if possible, be removed. Prolonged sexual excitement is particularly injurious, and the ovarian congestion is perpetuated by incomplete sexual relations.

The treatment of *congestive and inflammatory dysmenorrhea* is not unlike that required in any form of acute pelvic inflammation. If the discharge is suppressed, an effort should be made to restore it by the use of hot applications, the hot douche, etc., together with the administration of remedies like *Aconite, Belladonna, Veratrum Viride, Pulsatilla, Gelsemium* and *Ferrum Phos.*

Organic pelvic lesions should, of course, be looked after in a surgical way. Pus tubes, irreparably damaged ovaries, uterine displacement, fibromyomata of the uterus, chronic pelvic inflammation, tuberculosis of the pelvic organs, ovarian and broad ligament tumors, inflammation of the bladder, rectum, appendix, etc., can hardly be cured with remedies alone.

Divulsion is particularly applicable to the *obstructive type of dysmenorrhea,* although it is not to be resorted to until all ordinary measures have been exhausted. It will not cure all cases of obstructive dysmenorrhea. When divulsion is applied for the relief of obstruction it must be done in a most thorough manner. At least ten minutes should be devoted to overcoming the obstruction, especially in flexions. I use a divulser of the glove stretcher pattern, one not too powerful, and with its use there is little danger of seriously lacerating the tissues. After the divulsion the uterus should be packed with iodoform gauze, which should be left behind for forty-eight hours. I have found this quite sufficient and have discarded the various stem pessaries formerly used for the purpose of keeping the canal open.

In most instances where the uterus is divulsed I also apply the curette because of the endometritis usually present. The compound tincture of iodin or pure carbolic acid is next applied over the entire endometrium for the purpose of overcoming any existing hyperesthesia. The patient is kept in bed for at least a week or ten days after the divulsion.

In *membranous dysmenorrhea* the same general measures adapted to the other forms are useful. Usually, as has already been intimated, the prognosis must be exceedingly guarded. Dilatation followed by the curette is often most beneficial, especially if the endometrium is thoroughly swabbed with the compound tincture of iodin. It is probable that the benefit in all instances where divulsion is resorted to is due in no small degree to the improved nutrition of the uterine mucosa and musculature.

Under the term, "reflex dysmenorrhea," Fliess, a German rhinologist, presented in 1897 to the Berlin Obstetrical Society a paper in which he described a series of cases of dysmenorrhea due to some pathological intranasal condition, which he had relieved by treatment directed to the same. He accordingly designated these cases "nasal dysmenorrhea." In certain other

cases he found that the menstrual pain was relieved by applying a twenty per cent. solution of cocain to certain areas of the normal nasal mucosa. Subsequent observers have reported many cases of dysmenorrhea which were apparently due to disturbance of the superior and inferior turbinated bones of either side and to the "tuberculin" of the septum. It has occurred to me that these cases might have been relieved not so much because of the correction of the nasal lesions as to the fact that the large quantity of cocain necessarily absorbed exerted a specific influence upon the pelvic tissues.

It is entirely possible that the homeopathic prescriber will have to resort to one or more of the many sedatives—the bromides, aspirin, apiol, opium, etc.—which are largely relied upon by the physicians of the older school. I have not infrequently met with cases where I have had to administer, in order to relieve the immediate suffering, some of these agents. Aspirin is one of the least harmful and is often most beneficial in a palliative way. In all instances, however, before even aspirin is administered an effort should be made to cure the patient by the use of a carefully selected homeopathic remedy.

I do not want you to infer that even the larger number of cases of dysmenorrhea require the more radical measures which I have recommended. Indeed, painful menstruation can usually be overcome, or at least so mitigated as to make it entirely bearable, by the properly selected remedy, together with such adjuncts as have been recommended. Certainly, in unmarried women at least, the simpler measures should be exhausted before even a local examination is resorted to, unless indeed the symptoms are most urgent. In married women, on the other hand, we should not let too much time pass without making a careful physical examination.

HOMŒOPATHIC THERAPEUTICS.

Personally, I should hate to treat dysmenorrhea without the use of certain remedies having a specific action, not only upon the pelvic organs, but upon organs remote from the pelvis, thereby improving the patient's nutritive processes.

It is unfortunately hard for the busy man not to become something of a routinist, and if I were to be entirely honest with you, I

should have to confess that I have certain favorite remedies which, in the absence of definite indications, I resort to oftener than perhaps I ought. If I were asked to prescribe for a case of dysmenorrhea without being able to obtain a single subjective or objective symptom, I think that my first choice of remedies would be *Gelsemium*. I believe that I have cured a larger number of cases of dysmenorrhea with it than I have with any other single drug. It is especially useful if the periods are preceded by sick headaches and vomiting; if there is congestion of the head with a dark suffused appearance of the face; if the headaches are relieved by the passage of large quantities of limpid, clear urine; and if the uterus is markedly congested, as though squeezed by a band. There are in addition to these symptoms sharp, labor-like pains in the uterus extending to the hips and back, and even down the thighs. I have never obtained any benefit from *Gelsemium* in dysmenorrhea in the higher potencies. My rule is to use ten drops of the tincture in a glass half full of water, not too cold, giving a teaspoonful every fifteen minutes, half hour, or hour, according to the severity of the symptoms.

Another favorite remedy of mine in dysmenorrhea, and indeed in many gynecological conditions, is *Cimicifuga*. The symptoms especially calling for *Cimicifuga* in dysmenorrhea are severe pain in the back, down the thighs, and through the hips, especially if there is a rheumatic diathesis. The uterus is exceedingly tender, there is occipital headache with great despondency. Between the menses there is great debility with nervous erethism and neuralgic pain. Not infrequently there is insomnia and very often the pain is reflected from the pelvis to the mammary region. I rarely, if ever, prescribe *Cimicifuga* in these cases lower than the 3x, and my favorite potency is the 6x.

Pulsatilla will be found especially useful in neuralgic dysmenorrhea. It is, however, a remedy which I believe is over-estimated in relieving menstrual suffering. It is especially called for when the menses are delayed, difficult and scant, especially if there is associated with the dysmenorrhea gastric disturbance with vomiting. There is morning nausea with bad taste in the mouth, and the patient is always relieved by getting into the open air. Not infrequently the eyes are reflexly involved.

Viburnum Opulus is a remedy largely used as a sedative by the

older school in the treatment of dysmenorrhea. It is not necessary to give the full doses recommended by the writers of that school in order to obtain the best results. It is, however, a remedy especially useful in the lower potencies. I have found that twenty minims of *Viburnum Opulus* tincture in a glass half full of water is quite strong enough. This should be administered in teaspoonful doses at frequent intervals. It is especially called for in spasmodic and membranous dysmenorrhea with excruciating colicky pains through the uterus and lower part of the abdomen, which make their appearance suddenly immediately before the menstrual flow.

Belladonna is always to be thought of in the congestive and neuralgic type of dysmenorrhea. The pains come and go in quick succession, there is violent bearing down as if everything would issue from the vulva; there is violent throbbing headache, better from external pressure. It should be given in potencies not lower than the 3x.

Apis Mellifica is in my experience oftener called for in ovarian dysmenorrhea than any other remedy. There are stinging pains in the ovaries and not infrequently the urine is scant and high colored. There are violent labor-like, bearing down pains followed by the discharge of scanty, dark, bloody mucus. It is a remedy to be used during the intermenstrual period rather than during the period of actual suffering. I never use it lower than the third decimal potency.

Borax has cured a number of cases of membranous dysmenorrhea where the menses are too early, too profuse and attended with colic and nausea; leucorrhea like the white of an egg; sensation as if warm water were flowing over the parts.

As an intercurrent remedy *Calcarea Carbonica* is the one oftenest called for, especially where the depravity of nutrition manifests itself in the form of coldness of the hands and feet, and the patient is very easily affected by the cold. Where there is a tendency to cerebral congestion, or if there is involvement of the glandular system, *Calcarea Iodata* is the preferable form of lime to be administered. If the nervous symptoms predominate, *Calcarea Phosphorica* will oftener prove useful.

Other remedies not infrequently indicated are *Magnesia Phos-*

phorica, Platina, Secale Cornutum, Colocynth, Cantharis, Ignatia, Helonias and *Sepia.*

CONCLUSIONS.

1. Dysmenorrhea is not a disease *per se* but a symptom of numerous conditions which may be either general or local.

2. It is not always easy to determine the actual cause of the suffering, but it is probable that in nearly all instances of painful menstruation the nutrition of the uterus and its lining mucosa is so changed as to result either in hypoplasia or hyperplasia of these structures with attending hyperesthesia.

3. In the treatment of the milder forms of dysmenorrhea all that is usually called for is proper internal medication and local adjuncts, together with the correction of the patient's habits. The severer forms, on the other hand, often require surgical interference, having for its object the correction of malpositions of the pelvic organs, the overcoming of obstructions, the improvement of local and general nutritive processes, or the removal of hopelessly diseased appendages.

CHAPTER III.

UTERINE HEMORRHAGE.

This patient is 48 years of age; married; has had two children and two miscarriages. Two years ago she began to lose too much blood at her menstrual periods, the discharge persisting for more than two weeks after the menses were established. She had, at that time, a somewhat badly lacerated cervix with relaxation of the pelvic floor and a rectocele. She consulted a most excellent surgeon who curetted the uterus, did a trachelorrhaphy, and a perineorrhaphy by the flap-splitting method. For six months following this work the menses were practically normal, but she was more or less indiscreet, taking violent exercise in the form of long horseback rides in less than two months after her operation. As a result the menorrhagia returned, the flow again persisting for two weeks, there being associated with it a good deal of bearing down pain, some leucorrhea, intense backache, severe congestive headaches preceding the flow, nervousness, etc. The patient came to me three days ago. I found her with a blood pressure of 140; the cervix still hard, the uterus enlarged and the rectocele quite as bad as it was when I examined her previously to the first operation. She was again suffering from intense congestive headaches, with her general condition quite as bad as it was a year ago. There is a small hemorrhoid on the anterior border of the rectum. Her physician, who is a most up-to-date obstetrician, deems it wise to remove the entire uterus as a precautionary measure notwithstanding that the microscope revealed nothing of a suspicious nature at the first operation. This, however, seems to me unnecessary, in view of the fact that the patient is gaining in flesh rather than losing, unless indeed my pathologist, who is ready to make an immediate examination, reports that the products of the curettage and a section taken from the cervix are suspicious. I shall therefore proceed to explore the uterus, repeating the curettage in a most thorough manner, open up the angles of the cervix to see whether or not there is any cicatricial tissue left behind which is keeping the uterus

enlarged, heavy and congested, repair the rectocele, remove the hemorrhoid, overcome the adhesions of the clitoris present, and dilate the rectum most thoroughly. It is possible to remove but little fungoid tissue with the curette. There is, however, on the left side a plug of scar tissue in the cervix which extends well into the base of the broad ligament, which is exceedingly hard. My pathologist, Dr. Josephine M. Danforth, reports that there is nothing suspicious in either the curettings or in the plug of tissue removed from the cervix. I shall, therefore, using great care to remove all of the hard cervical tissue, make a double V-shaped incision on either side in such a way as to leave the lips of the cervix after this is removed not unlike the edges of the wound in a fistula operation where the flap splitting method is utilized. This destroys most of the diseased cervical glands. I shall next be exceedingly careful in approximating the angles of the wound so that no scar tissue will re-form in the process of healing. I shall overcome the rectocele by removing the excess of tissue and bring together the divided levator ani muscles, which are already thoroughly well approximated at the vaginal outlet, but not sufficiently so high up to overcome the rectocele. I shall remove the hemorrhoid by pulling it down, clamping it, and stitching the raw areas together by carrying around the clamp a catgut suture, after which the clamp is removed and the suture tightened, thus making a quick and practically bloodless operation. Of course, another examination will be made by my pathologist after the tissues are thoroughly hardened. Should she report any suspicion of malignancy, the uterus can later be removed through the abdomen.

Remarks. Uterine hemorrhage is different from hemorrhage proceeding from any other organ of the body inasmuch as the uterus is normally subjected to the greatest variations in vascularity. In determining whether or not a woman is bleeding too freely many factors must be taken into consideration—the patient's early menstrual history, her personal habits, the effect of the bleeding upon her system and the character of the blood.

The term "menorrhagia" indicates the menstrual origin of the hemorrhage and signifies excessive menstruation. The term "metrorrhagia" signifies that the hemorrhage occurs either dur-

ing, or is prolonged into, the intermenstrual period. For the purpose of study it is more logical to ignore these divisions and study both menorrhagia and metrorrhagia under the caption of "uterine hemorrhage."

The *cause* of the bleeding may be either constitutional, general or nervous; may be due to malignant lesions or non-malignant lesions; may be accidental; or may be the result of pregnancy (abortion or placenta previa). It not infrequently attends the climaxis, and is looked upon by the majority of the laity as physiological during this period, a doctrine which is exceedingly dangerous, as we shall subsequently see.

Of the *constitutional* causes first of all comes what is known as the hemorrhagic diathesis. This is a term long used to describe patients who bleed readily from any and every part of the body, and every surgeon of experience has learned to dread them. In all other respects the patient is apparently perfectly well but the slightest cut or injury bleeds unduly. The evidence is rapidly accumulating going to show that derangement of the internal secretions plays a most important role in the production of the so-called hemorrhagic diathesis. Dr. W. Blair Bell, in the December, 1913, Proceedings of the Royal Society of Medicine, under the caption of "The Relation of the Internal Secretions to the Female Characteristics and Functions in Health and Disease," has a most learned and scholarly discussion on this subject. His conclusions are: 1. That the development and integrity of the genital organs and their functions are dependent on all the internal secretions individually and collectively. 2. The removal of any one organ of internal secretion produces changes in the constitution and by this means we get some insight into the nature of the correlations that exist. 3. The patient's metabolism is altered by extirpation of any of these organs. This alteration of the general metabolism affects the genital metabolism.

The foregoing knowledge will explain why menorrhagia in young girls from 15 to 20 years of age is so often unaffected by the application of the curette. I have not often obtained benefit from the administration of the animal extracts without first overcoming the subjective symptoms present by the use of the indicated homeopathic remedy. However, in two

or three striking instances I have found the administration of one or more of these extracts most efficacious. In one case—a girl of 15—who had been twice thoroughly curetted without overcoming the hemorrhage and had been carefully medicated, was relieved within a month with five grain doses of Corpus Luteum, three times a day. In another, a woman married, æt. 28, who had been curetted three times, twice by myself and once by another surgeon, for a metrorrhagia which had almost exsanguinated her, stopped bleeding after taking, for six weeks, thyroid extract.

Up to the present time we are not able to tell with any degree of precision which of the internal secretions to prescribe in a given case. Bell has shown that the ovaries are katabolic in regard to the calcium salts. Calcium chlorid has for a long time been used in physiological doses with advantage for the purpose of overcoming the hemorrhagic tendency in bleeding from any organ of the body. It is also believed that the thymus produces calcium retention in the tissues and thus assists in building up the bony skeleton. It is not necessary to emphasize the important part played by the calcium salts in the human economy at all periods of life.

The thymus and the ovaries are not the only organs which influence the calcium metabolism for, as in the metabolism of other elements, all the endocrinous organs are concerned, either anabolically or katabolically. Doubtless as time goes on we shall be able to prescribe the internal secretions in altered metabolism with a greater degree of precision than we are able to do at the present time.

Tuberculosis and *syphilis* are likewise constitutional causes which so degenerate the blood and the tissues as to permit the blood readily to pass through the lining membrane of the uterus. It is true that tuberculosis is oftener associated with amenorrhea than with menorrhagia. Nevertheless tubercular patients do sometimes flow excessively, and the disease may be precipitated by an exaggerated menstrual discharge which in time reduces the vitality of the patient to such an extent as to make her an easy prey to phthisis—hence where there is a predisposition to the disease it should be the aim of the physician to conserve the patient's strength in every possible way. I have met with sev-

eral cases of menorrhagia where the constitutional evidences of syphilis were wanting (this before the days of the Wassermann) which were only relieved by placing the patient under an anti-syphilitic régime.

Bright's disease is sometimes associated with excessive loss of blood from the uterus. The diagnosis in Bright's disease must necessarily be based upon careful and repeated analyses of the urine.

Of the *general* causes excessive lactation is first to be noted. There are few women who can, with entire impunity, nurse their children while menstruating. This is especially true if there is a predisposition to one or more of the diathetic troubles already dealt with. Lactation often excites hemorrhage through reflex irritation.

Malaria is not infrequently responsible for uterine hemorrhage. In British medical literature it is noted that women who have lived for any time in India are usually victims of menorrhagia. I have had several cases of excessive bleeding in women who have resided for some years in the Philippines.

Lead poisoning is another cause, many times insidious in character, responsible for menorrhagia. One of the women provers of *Plumbum,* a most intelligent lady practitioner, dated her menorrhagia from a proving made ten years previously. *Plumbum* is one of the most useful remedies we have in controlling uterine hemorrhage, especially if Bright's disease is a factor.

Uterine hemorrhage may also be due to disturbances of the heart, liver, lungs and stomach, which create pelvic and uterine congestion. Sedentary habits, sexual excesses and ovarian disturbances must not be lost sight of in looking for causative factors. Nervous influences, especially in young girls, will sometimes produce excessive bleeding from the uterus. Undue emotional excitement should therefore be guarded against in the treatment of uterine hemorrhage.

Malignancy is, of course, to be thought of in hemorrhage occurring in women during the so-called cancerous age. In the later stages there is but little difficulty in diagnosing malignancy, but at the time of its onset there may be the greatest difficulty in so doing. It is important to remember that hemorrhage is by no means an early symptom in all cases of malig-

nancy, nor indeed in the majority. According to the statistics of Dr. West, it is the first symptom in only about 44 per cent. of uterine cancers. When an early symptom it is the result of congestion of the endometrium; later on it is due to ulceration which by invading the vascular structures gives rise to a profuse and occasionally fatal hemorrhage. It is much more profuse when the fundus is involved, and may or may not be accompanied with pain.

Neumann found in 183 cases of post-climacteric hemorrhage in which the menopause had occurred at least one year previously the following lesions:

Carcinoma of cervix, 100;
Prolapse of vagina or uterus, 24;
Carcinoma of uterine body, 18;
Mucous polypus, 8;
Senile changes in genitals, 5;
Myoma uteri, 4;
Ovarian cyst, 4;
Doubtful conditions, 20.

The symptoms of sarcoma do not differ from true carcinoma, except that there is often, in sarcoma, a free "rice-watery" discharge containing grayish-white shreds, which does not become offensive until after necrosis of tissue sets in. Not infrequently, especially in cauliflower excrescence, the hemorrhage in malignancy may be induced by sexual congress, walking, coughing, straining at stool, etc.

We have as *non-malignant* lesions causing uterine hemorrhage, fibroma and polypi. These growths produce hemorrhage because of changes induced by their presence in the endometrium and in the walls of the uterus, though Briggs and Hendry (Proceedings of the Royal Society of Medicine, March, 1914) adduce statistics to prove that endometritis and changes in the endometrium are not as frequently responsible for uncontrollable uterine hemorrhage as is generally believed. In 18 uteri where a microscopic examination was made by them the relation was not observable between the varieties of the endometrium and the severity of the hemorrhage. In other words, according to these writers, the glandular and stromal hyperplasia belong to the normal menstrual cycle and not to either glandular or interstitial

metritis, a view first expressed by Hitschmann and Adler. This will explain why the application of the curette fails in many of these cases to control the hemorrhage. It is not improbable that in applying the curette small polypi are often overlooked.

It is necessary to note under *accidental causes* chronic uterine inversion, hematocele and uterine displacements. Uterine displacements, by interfering with the return flow of blood from the uterus, create a hyperplasia and an endometritis.

Not infrequently in uterine hemorrhage there is a history of abortion some months or even years previously. Hedley removed 17 pieces of fetal bone from the uterus in a woman who was flowing excessively three years after a miscarriage.

It will be seen from the foregoing that menorrhagia, like dysmenorrhea, is a symptom of innumerable conditions and not a disease *per se,* and this fact must be taken into consideration in order to treat the condition intelligently.

THE TREATMENT OF UTERINE HEMORRHAGE.

The treatment of uterine hemorrhage may be conveniently studied under the following heads: (*a*) General; (*b*) Conduct of a patient during period; (*c*) Treatment of local causes; (*d*) Immediate control of hemorrhage; and (e) Drug therapy.

Under the head of *general treatment* the patient's diet must be selected with reasonable care. The patient just operated upon is plethoric, has a blood pressure of 140 and while she is most active in her habits, I deem it wise to restrict her diet, which has been most generous, and proscribe all forms of alcoholic stimulants. On the other hand, if the nutrition is below par the diet should be generous. Outdoor exercise is of the greatest utility, but it should not be too violent, especially for some time following an operation. Care must be used in prescribing exercise if prostration is a marked symptom. Fresh air and sunshine are, however, always of advantage. The clothing should be suspended from the shoulders to avoid constricting the waist and crowding the abdominal organs into the pelvis. Especial attention should be given to constipation if it be present, for it is an important factor in the production of pelvic congestion. With the constipation there is almost always hepatic sluggishness which should be overcome. In short, what-

ever the cause of the unnatural discharge, the treatment must be directed toward it. The recumbent posture should be assumed during menstruation when possible.

In the *immediate* control of hemorrhage we have heat, for its mediate effect upon the blood vessels, and tamponage. Heat is best applied in the form of a hot douche, using water in large quantities—not less than two or three gallons, at a temperature of from 110° to 120° F. The primary action of heat is to dilate the blood vessels, but its secondary is to contract the capillaries—hence its utility in controlling hemorrhage. The primary action of cold, on the other hand, is to contract the blood vessels but its secondary action is that of dilatation, so that in most instances heat is by far the better agent. Another advantage which heat possesses over cold as a hemostatic is that it does not shock the system as does the latter. Nevertheless cold will sometimes succeed in promoting uterine contraction when heat fails, and is therefore to be held in reserve. It may be applied in the form of a vaginal douche or by the aid of a small ice bag within the vagina or a larger one over the pubes; or by cloths wrung from cold water and applied to the lower abdomen. An ice bag placed over the lower spine is sometimes most effectual.

Where the hemorrhage is active and the uterus is not too much enlarged by pregnancy the most effectual way of immediate control of the bleeding is by the use of the vaginal tampon. When the patient is not losing blood too rapidly a cleansing douche should precede the introduction of the tampon. The best material for tamponing the vagina is iodoform gauze. The vagina should be thoroughly and completely plugged with the gauze, being careful first to distend the upper portion of the vagina by wrapping it, as it were, around the cervix and then carrying into the vagina all that it will hold. I have so many times found a single narrow strip of gauze in the vagina introduced for the purpose of controlling hemorrhage, which is not only entirely useless, but actually harmful, that I desire especially to emphasize the necessity of *thoroughly* plugging the vagina. A pad should then be applied over the pubes and counter-pressure exerted by means of a T binder.

In the very worst cases of uterine hemorrhage, especially

when the result of cancer, local astringents may be necessary. The blood vessels and capillaries in these cases may remain unaffected notwithstanding the application of heat and cold and ordinary stimuli. In these rare instances we have at our command astringents like alum, tannin, hamamelis and iron, which can be used advantageously. Alum in the form of a saturated solution may be injected into the uterine cavity, providing the os is patulous. It is a household remedy and where hemorrhage is feared and the physician not easily accessible the patient or the nurse can be instructed as to its use. No force should be used in its introduction and unless the cervical canal is sufficiently open a reflux catheter is necessary. In short, provision should always be made for the exit of fluid of any kind when thrown into the uterine cavity. The fluid should, of course, always be warm. In hemorrhage of a decided venous character hamamelis 1:20 is a most useful agent. In the more severe forms of hemorrhage the thorough application of the chlorid of iron diluted with twice its bulk of water applied over the entire endometrium may be called for. This heroic method should never be resorted to except when all ordinary measures have failed for it tends to form coagula, and coagula left within the uterine cavity are always dangerous. Its use is only justified when the patient's life is threatened by an uncontrollable hemorrhage. We then use it to avoid a great and pressing danger by running the chances of a lesser one.

The treatment of *local causes* comprehends the removal of fibroids when present if of any considerable size, the overcoming of uterine displacements, and the correction of endometritis and subinvolution when present, by both general and local measures; in short, the removal of all causes when this is possible. The curette plays a very important part in overcoming the various lesions giving rise to endometritis. It should be applied in nearly all instances where uterine displacements exist, even when radical measures are undertaken to overcome the displacements and injuries incident to childbirth. When operating for injuries incident to childbirth it is all important that all work should be done most thoroughly and carefully. A plug of tissue such as I have removed in the case just operated perpetuates the hemorrhage in one of two ways: 1. In a

purely mechanical way by interfering with the return flow of blood from the uterus so that the organ is kept constantly congested and inflamed, thereby inducing metritis and endometritis. 2. By pinching terminal nerve fibres which results in reflexly disturbing the stomach, intestines, liver, etc., thereby interfering with metabolism. It is therefore of the greatest importance in overcoming these local causes that the work be done most thoroughly. Plastic work upon the female genital organs is ordinarily classified as minor work, whereas all operations within the abdomen are classified as major operations. My own opinion is that it many times requires much more skill and care to do thorough and intelligent plastic surgery within the female pelvis than is required to do an ordinary abdominal operation, which should be made to supplement the plastic work where there exist displacements of the uterus, disease of the appendages, chronic appendicitis, etc. Failure to obtain benefit from the application of the curette is often because of the lack of thoroughness in making such application. Great care should be observed to apply it over the entire endometrium, especially over the endometrium covering the cornua of the uterus. It is in the neighborhood of the cornua that fungoid tissue is oftener found. A small mucous polypus may be entirely overlooked, even though the curette is applied most skillfully. For this reason I make it an invariable rule to carry into the uterine cavity, after the application of the curette, a small placental forceps, thereby locating and removing any projecting tissue that the curette may have missed. I have more than once, by this procedure, removed small polypi which if left behind would have perpetuated the hemorrhage.

HOMŒOPATHIC THERAPEUTICS.

Finally, we have at our command a class of remedies which have a special and specific action upon the uterine tissues as well as upon the entire organism and which should always be intelligently administered before resorting to the more radical measures referred to. I will enumerate a few of the remedies which have proved especially useful in my hands, giving you some of the indications which govern me in applying them.

Hydrastis Canadensis.—Especially useful where there are erosion and excoriation of the cervix with leucorrhea. There is menorrhagia with pruritus vulvæ. Thick, yellow, ropy secre-

tion from the cervix or from any of the mucous membranes—throat, stomach, etc. It is more useful in cachectic individuals than in the robust. There is apt to be emaciation and prostration. It is especially useful, too, if there is inactivity of the liver with constipation. There is a sinking feeling in the stomach and a dull headache; after stool a long lasting pain due either to fissure, to ulcer or to hemorrhoids; with the pain there is, not infrequently, contraction or spasm of the sphincter ani. *Hydrastis* should be prescribed one dram of the tincture in a glass two-thirds full of water and a teaspoonful given every two hours. The older school use it in larger doses every two or three hours. Aggravation is liable to follow these larger doses, but I have obtained little or no benefit from it when given in the potencies.

The next most useful remedy in my experience is *China*. The hemorrhage is not infrequently due to atony of the uterus. It is especially called for if the patient has lost much blood, with ringing in the ears, faintness, coldness, loss of sight, etc. Menses too early, too profuse and contain black clots; great distension of the abdomen; bloody leucorrhea; there is painful heaviness in the pelvis; pain is worse on the slightest touch; sometimes is worse every other day; is nearly always worse at night and after meals; patient usually feels better in the open air. *China* in these conditions should be given not higher than the 2d decimal dilution.

Ipecacuanha is the third remedy in importance, according to my estimation, in dealing with uterine hemorrhage. It is especially called for if the stomach is much disturbed and there is persistent nausea and vomiting. The blood is bright red and occurs with a gush at every effort to vomit; heat about the head and debility; gasping for breath; menses too early and profuse. There is a pain from the navel to the uterus. I never prescribe *Ipecacuanha* lower than the third decimal dilution and my favorite potency is the sixth.

Hamamelis. There is passive hemorrhage with anemia; the blood is dark and there is an absence of uterine pain; there is a tendency to venous congestion with varicose veins, hemorrhoids, etc. There is a bruised soreness of the affected parts; not infrequently there will be found ovarian irritation and congestion; uterine hemorrhage with bearing down; metrorrhagia

occurring midway between the menstrual periods; vagina very tender; patient is worse in warm, moist air. Personally, I prefer the lower potencies.

Secale Cornutum.—This is a remedy used in full doses by the physicians of the older school for the purpose of controlling uterine hemorrhage oftener than any other remedy. Ergot is an important agent in nearly all prescriptions of a compound character for uterine hemorrhage. Its utility, of course, cannot be questioned when it is necessary to contract a relaxed uterus in postpartum hemorrhage after the delivery of the placenta. It has, however, a much more extended range of action and is especially useful in homeopathic doses where there is passive hemorrhage with very fetid blood in feeble, cachectic persons, particularly when the weakness was not caused by previous loss of blood. It is indicated especially if the patient has frequent labor-like pains with chronic metritis. During the intermenstrual period there is not infrequently a brownish offensive leucorrhea, or there may be a continuous oozing of watery blood until the next period. In order to obtain the finer action of *Secale,* it should not be used lower than the sixth decimal dilution.

Belladonna is to be thought of if the flow is bright red and imparts a sense of heat, and if there is a bearing down sensation as though the organs would protrude from the vulva; congestion of the head with throbbing of the carotids.

Calcarea Carbonica, as a constitutional remedy, will often prove of the greatest advantage; the menses are too frequent, too profuse and last too long; profuse menstruation during lactation, especially in leucophlegmatic constitutions as manifested by malnutrition, cold hands and cold feet, unnatural perspiration, etc.

Plumbum Metallicum, as has already been intimated, is to be thought of in menorrhagia when there is Bright's disease; there is a hardening of the uterus from sclerotic processes; there is constipation, the stools being hard, black, with urging and spasm of the anus. I usually prescribe *Plumbum* in the higher potencies.

Other remedies, especially to be thought of are: *Sabina, Platina, Crocus Sat., Nitric Acid, Trillium, Erigeron* and *Ferrum Phos.*

CONCLUSIONS.

1. An abnormal discharge from the genital tract is but a symptom of some abnormal condition, either local or general. It is the first duty of the physician to determine the *cause* of the hemorrhage.

2. When a continuous or exaggerated discharge of blood is not overcome by ordinary measures, a careful general and local examination becomes imperative.

3. If any symptoms of malignancy of the fundus exist the uterus should be curetted under general anesthesia and the products examined by an expert microscopist; or if the cervix is involved, and proper treatment does not affect the induration, a section should be excised under local anesthesia for miscroscopic examination.

4. Relying upon the subjective symptoms and the indicated remedy when the loss of blood is at all persistent is most reprehensible. While fully appreciating the value of internal medicine in dealing with menorrhagia and metrorrhagia, in at least a goodly number of cases something more radical is demanded. When it is remembered that not more than 33 per cent. of the cases of cancer of the uterus are operable when they come to the surgeon, it will be seen that the responsibility of the general practitioner is very great. The physician should always bear in mind that he is dealing with a symptom of *some general or local disease*. Even though the cause be other than malignancy, the prolonged drain upon the system may result in anemia, hysteria, neurasthenia, impaired nutrition and even death.

CHAPTER IV.

VAGINAL DISCHARGE—LEUCORRHEA.

The one symptom which has brought this patient to me is an exceedingly excoriating leucorrhea, which makes the parts raw and has caused such a degree of dyspareunia that she has associated with it a vaginismus making her sexual relations almost impossible. She first came to me four years ago with the following history: She was exceedingly neurotic, apprehensive, anemic with a more or less constant loss of blood and an offensive discharge from the vagina, which, from the very first, was irritating and excoriating. While she says she has the sexual desire, she is afraid to indulge in intercourse because of the local pain and distress induced, and because of the fact that for three or four days after the attempt her nervous condition is much worse. There was a constant pain in the left side, and she had flowed excessively for a long time. She had been married for twenty years and had never been pregnant, although nothing was ever done to prevent pregnancy. The parts were so sensitive at that time that I could not make anything like a satisfactory bimanual because of the rigidity of the abdominal walls and because of the contraction of the vagina. As nearly as I could tell, however, the uterus was abnormally large and was retroflexed. There was a marked tenderness in the left side. She returned home for local and general treatment, and has been to see me once or twice since. She has gradually grown worse until now she is very sallow; the discharge is even more persistent and excoriating than it was at first and she is chlorotic looking. She has a great deal of trouble with soreness of the mouth and throat (aphtha), and the local condition is worse than when I first saw her four years ago. She is troubled with indigestion and constipation with mucous stools. She is becoming more and more melancholic because of the fact that she cannot indulge in sexual relations, and is fearful that her husband, because of this fact, will go elsewhere for gratification. She is becoming more and more nervous as time goes on, and I am apprehensive that unless she gets relief she will be-

come a complete mental wreck. It therefore seemed best to insist upon an examination under anesthesia, which I am now ready to make, being prepared to do any surgical work that may be necessary.

I first find the vulva and vagina red and excoriated, as you see. I find the uterus large, heavy and retroflexed with what seems to be an enlarged ovary under the fundus. I find a little hard, indurated mass corresponding to the left ovary. I shall therefore proceed first to give her a thorough dilatation and a curettage, apply iodin and pack the uterus, hoping thereby to so modify the endometritis as to control the discharge. I shall thoroughly dilate the rectum for the purpose of overcoming the constipation and improving the metabolic processes. I shall overcome the adhesions of the clitoris which are present, for clitoridal adhesions are quite as important in the production of nervous symptoms in women as are preputial adhesions in the production of nervous symptoms in men. I shall then proceed to open the abdomen, finding, as you see, the right ovary at least three times its normal size, and a mere shell, with both tubes thickened and congested. I find the left ovary also adherent in the cul-de-sac of Douglas and as hard as cartilage, having undergone cirrhotic degeneration. I find a long, atrophied, anemic looking appendix, which has undergone almost complete obliteration (appendicitis obliterans), because of the chronic appendicitis which has existed for a long time. I shall accordingly remove both ovaries and tubes, as a matter of precaution remove the appendix as well, and inasmuch as the patient cannot become pregnant, I shall suspend the uterus by the Kelly method in order to hold it well up in the abdomen, thereby hoping to lessen the dyspareunia. I shall finally close the abdomen with two layers of catgut, silk wormgut tension sutures and a continuous mattress suture for the skin.

Remarks.—Leucorrhea, like amenorrhea, dysmenorrhea and menorrhagia is but a symptom of something wrong elsewhere, and when the patient comes to the physician with an unnatural discharge from the vagina it is his duty, if the condition is at all distressing, to do something more than prescribe a douche and the internal remedy. I say if the condition is at all serious, for

the reason that in the milder forms of leucorrhea those slight discharges that obtain immediately before or after the menstrual period, or are the result of undue exercise, require ordinarily nothing more than a cleansing douche and a little care to correct the condition. I would not think of subjecting a young girl, or even a married woman, to a physical examination for so insignificant a symptom as a slight, non-irritating discharge from the genital tract of but a few days' duration.

Normally, the mucous membranes of the genital tract, extending from the ostium vaginæ to the fimbriated extremities of the Fallopian tubes, secrete only enough fluid to lubricate the opposed surfaces. The vulvo-vaginal glands and numerous muciparous follicles are located at the side of the vaginal aperture from which is poured a viscid mucus, which is increased during labor and during the sexual orgasm. Over the inner surface of the labia, the clitoris and the nymphæ are sebaceous follicles which secrete matter containing butyric acid. The arbor vitæ of the cervix contain many glands of the racemose type, dilated at their extremities and extending deeply into the connective tissue. These are exceedingly numerous and from them is poured a tenacious viscid secretion of an alkaline reaction. In one of my patients this was so tenacious and so profuse that a rope of it as thick as the finger would not infrequently project from the vaginal orifice. Microscopically, this discharge contains epithelium of the columnar variety and mucous corpuscles. The cervical discharge rarely preserves its characteristic appearance when it escapes from the vagina; after the secretions from the cervix and the vagina commingle the effect is a white, soapy or creamy fluid.

The foregoing physiological facts will enable us better to appreciate what constitutes a pathological discharge. While it is utterly impossible to give a perfect division of the discharges from the vagina based upon the physical character of the same, for rarely is the discharge from the vagina derived from one source, we may for the convenience of study make the following classifications: (1) mucous; (2) purulent; (3) watery; (4) sanious; (5) offensive; (6) hemorrhagic.

If the discharge is largely *mucus,* it is probable, as we have seen, that it comes from the cervix. A mucous discharge

may, however, proceed from the uterine cavity, or, rarely, from the Fallopian tubes. It may be nothing more than a mere exaggeration of the normal secretion after menstruation or during pregnancy. It may be a manifestation of the early stages of inflammation, either specific or non-specific. It may be of constitutional origin, the result either of anemia, chlorosis or Bright's disease. It is not infrequently, when proceeding from the cervix, the cause of sterility because of the plugging of the cervical canal resulting from the same. It perhaps is more often due to cystic degeneration of the cervix than to any other cause. If from the vagina it usually represents a chronic state of vaginitis, which is either specific or non-specific.

When *purulent* in character it may be either thick or thin, profuse or scant, fetid or odorless, sanious, yellow or greenish in color. A purulent discharge may proceed from any portion of the genital tract: From the Fallopian tubes (rarely), from the uterine cavity, from the cervix, from the vagina, or from a suppurating cyst or pelvic abscess opening either into the uterus or the vagina. It is probably oftener due to a specific condition than to any other one cause. It may, however, be caused by a pyosalpinx or a chronic endometritis, by retained membranes after abortion, or by malignant ulceration.

When of a *watery* character the quantity is most variable. In rare instances it is due to a hydatidiform mole, portions of which are often expelled with the fluid; if so there is a history of rapid enlargement of the uterus with an absence of the usual symptoms of pregnancy. If the discharge is of a dirty yellow or pale yellow color, it may be due to tuberculosis of the cervix, a rather rare condition. It is entirely possible for the contents of an ovarian cyst after ulceration and perforation to find their way into the vagina. When it has a *urinous* odor it is more than probable that there is some communication between the vagina and the bladder; or it may be due to incontinence of urine, the patient keeping herself constantly wet because of the frequent involuntary discharge of urine while laughing, coughing or sneezing.

When distinctly *sanious* in character it may come from either the uterine cavity or the cervix and is not infrequently associated with menorrhagia, polypi, fibromata or malignancy.

When exceedingly *offensive* in character it is often due to the retained products of conception or to some malignant degeneration. If from retained products of conception, there will be a history of pregnancy. In sarcoma of the uterus it does not become offensive until necrosis of the tissue occurs. Then there is a peculiar discharge resembling the washings of fresh meat. In true carcinoma there is a peculiarly characteristic odor, which cannot be described and must be experienced to be appreciated. Sometimes the leucorrhea for want of proper cleanliness is offensive because of retained menstrual products.

I make it an invariable rule when a patient comes to me for the first time for an examination, if there is a discharge that is in any way suspicious of specific infection, to have the secretion examined by an expert microscopist. It should be obtained from either the urethra, vulvo-vaginal glands and external genitals, the vagina or the cervix, according to the seat of the most active inflammation. A cotton applicator is used in securing the discharge, when it is spread upon a glass slide. It must not be forgotten that in chronic gonorrhea the urethritis is not infrequently perpetuated by a chronic infection of Skene's glands, and some of the pus from these should be obtained. Such an examination was made in the case before you but no gonococci were found. This does not mean that the primary infection was not specific for the reason that as time goes on the gonococci not infrequently disappear from the discharge. The patient was, however, for four years under the care of a most excellent prescriber, who also gave her local treatments without the slightest benefit. This because of the fact that the discharge was perpetuated by the imperfect drainage of the retroflexed uterus, by the disease of the ovaries and tubes, by the indigestion, autointoxication and constitutional conditions resulting from the same, as manifested by her anemia, her chlorosis and the aphthous ulceration of her mouth and throat. In short, she was continuously poisoned by the autointoxication induced which in turn affected her genital organs and their secretions, these again being absorbed into the general system, so that there was a vicious circle established which made it impossible to cure the patient until that vicious circle was in some way broken. I believe now that we have by our surgical work made

such a break, and that by applying proper local and general treatment we can now get the patient well.

THE CHRONICITY OF GONORRHEA.

Werthein* in 1894, in order to test the question whether in chronic gonorrhea the lessening of the virulence of the germ is brought about, employed the following experiment: He made a pure culture from an urethra with gonorrhea of two years' standing in which the discharge had ceased, and although he repeatedly attempted to inoculate the same urethra, he was unsuccessful. But with this same culture he obtained a typical gonorrhea in another patient lasting seven weeks, showing the gonococci had not lost their virulence. Then to explain the cause of a fresh lighting up of a chronic gonorrhea in a man after marriage, which is often observed, he reasons that it is not, as is generally explained, on account of abnormal irritation of the mucous membrane from renewed sexual intercourse, but to the fact that the wife being infected from the husband, reinfects him. In proof of this he employed pure cultures from the urethra of the wife which had produced acute gonorrhea and reinoculated the original urethra which had been proof against two old cultures and successfully produced an acute attack lasting five or six weeks. I cite this experiment for the reason that it shows most emphatically the necessity of thorough and radical treatment in the case of women with gonorrhea, and of resorting to the same test before discharging them as cured that we apply to determine the presence or absence of gonococci in men. The experiment is also interesting because it places especial emphasis upon the medico-legal aspect of this question, inasmuch as the husband might be unjustly charged with reinfecting his wife because of extra-marital intercourse; or, conversely, the wife might, with equal injustice be charged with impure relations in the event that the husband became secondarily infected. It shows conclusively, too, that gonorrhea in married people can only be successfully treated when both husband and wife undergo treatment at the same time, and during treatment cease all sexual relations.

**Vide* the Author's paper, "The Tragedy of the Gonococcus."—*N. A. J. Homœopathy,* September, 1909.

TREATMENT.

It is hardly necessary after what has been said to emphasize the importance of treating the *cause* of leucorrhea when the symptom is in any way persistent. This, of course, implies a thorough physical examination. After the cause is determined the treatment should be directed accordingly. A carefully selected constitutional remedy is of first importance, together with the correction of the patient's habits. In this particular case I prescribed Arsenicum, which I believe, now that the causes are removed, will play a very important part in restoring the patient to health. It is indicated by her malnutrition, by the type of her indigestion and by the aphthous inflammation of the mouth and throat, as well as by the excoriating character of the vaginal discharge.

In 1901 I published in the *American Journal of Obstetrics* (Vol. XLIII, No. 3) a paper entitled "The Use of the Spray in the Local Treatment of Gynecological Diseases." While I have received many letters expressing appreciation of this paper, I am led to believe that comparatively few general practitioners are using the spray for this purpose, notwithstanding that there is a pretty general concensus of opinion that the usual local treatment of catarrhal and inflammatory diseases of the female genital tract is both unsatisfactory and unscientific. The continued use of the vaginal douche, supplemented by medicated tampons of suitable material, will many times afford marked relief, and if persisted in long enough will accomplish a cure when the disease is not too deep seated. However, the time required in the average case to bring about a cure by this method is exasperatingly long, and there are few women who possess sufficient patience to persevere in it until all discharge ceases and the mucous membrane assumes a normal condition.

Before proceeding to describe what I believe to be a better way I desire to emphasize that in my opinion much of the routine local treatment of gynecological diseases by whatever method is both useless and harmful. As I have already said, in the larger per cent. of catarrhal affections causes exist which unless removed will perpetuate the leucorrhea until the day of judgment. Such causes are uterine displacements, periuterine and appendicular dis-

eases, cervical lacerations with ectropium, relaxation of the pelvic floor, constipation with disordered circulation, malnutrition, etc. It is, too, impossible to overcome the discharge so long as certain exciting causes remain operative; of these the various expedients used to prevent conception are especially to be mentioned. When any or all of the lesions enumerated are present the case is surgical and not medical, providing, of course, the interests of the patient are of first importance rather than those of the attending physician. I have known physicians to treat cases of leucorrhea for twenty years when the discharge could have been stopped at once with a series of minor operations comprehending curettage, trachelorrhaphy and reparation of the pelvic floor. As time progresses these patients become discouraged, not infrequently hysterical and almost always extremely introspective.

Over and above the cases complicated by one or more of the foregoing lesions, there are a large number of women suffering from leucorrhea who seek relief. Whether specific or non-specific they expect relief without surgical interference. If specific, proper and timely treatment will prevent the disease extending through the uterus into the pelvis; if non-specific, after constitutional dyscrasiæ have been overcome, proper local treatment will cure the discharge. With many other physicians I long ago became dissatisfied with the ordinary swabbing and tamponing treatment. I think it was the late Dr. Skene who first suggested the use of the hand spray in gonorrheal vaginitis, and acting upon his suggestion I recommended this treatment in the first edition of my Text Book, published in 1894. In 1901 I removed my office to the building at present occupied by me where I found each office supplied with compressed air pipes of thirty pounds pressure. I therefore determined to experiment in a systematic way with the spray in the local treatment of the diseases of women. I am now ready, after fourteen years, to say most emphatically and without hesitation that I should hate to practice the specialty of gynecology without the use of the spray in treating the catarrhal diseases of women.

Given then a case of "leucorrhea" I proceed as follows: If gonorrhea is suspected the discharge is examined for the specific

bacillus. Whether the case is one of specific or simple origin, the parts are first thoroughly sprayed through a fenestrated speculum with a fifty per cent. solution of one of the numerous antiseptics now on the market under the name of Glycothymoline, Alkalol, Listerine, etc. These preparations nearly all contain varying proportions of boric acid, thymol, sodæ boras, oil of pine, eucalyptol, oil of gaultheria, oil of peppermint, with alcohol and glycerin as a base. I began my experiments by using for this purpose a 50 per cent. solution of peroxid of hydrogen but I found that this left an unpleasant sensation in the vagina after its use and so discontinued it. The bichlorid of mercury, even in the weaker solutions, is too irritating when used as a spray, and is not as effective as are solutions containing eucalyptol, thymol, boric acid, etc. Should there be hanging from the cervix a tenacious, white of egg discharge which is hard to dislodge by ordinary methods, an alkaline spray such as is used by the nose and throat men (Dobell's solution is one of the best) will quickly dislodge it and clear the cervix in a most thorough manner. In the event of endocervicitis I usually apply, by means of an applicator, the compound tincture of iodin to the cervical endometrium.

Thus far the treatment is routine. If now the catarrh is specific, it is followed by a spray of a 10 per cent. solution of Protargol, care being taken to apply the spray over the entire vaginal and cervical mucous membrane, as well as to let it play upon the external os and into the cervical canal. With the pressure at my command the spray will penetrate, unless the os is very small, the entire cervical tract. In order to reach all of the vaginal mucous membrane a fenestrated speculum is at least a great convenience. It should be withdrawn and reintroduced in a slightly different position, so that no part of the vaginal mucosa will escape the spray. The same end can be accomplished by means of a bivalve rectal speculum controlled by an assistant. Should the urethra be implicated, both the cleansing and the medicated sprays are forced into the meatus, pressure being made with the finger upon the bladder end of the canal, in order to prevent vesical infection. If Skene's glands are involved these are treated in like manner. The vaginal walls are now kept

apart by a good sized lamb's wool tampon medicated with a ten per cent. glycerin solution of Ichthyol. The patient is instructed to remove the tampon and take a 1:5000 bichloride douche before again presenting herself for treatment. The treatments are made from two to seven times a week according to the acuity and intensity of symptoms, and are persisted in until all discharge ceases and all gonococci disappear, which will require from two to eight weeks. Should the disease have invaded the uterine cavity, curettage is, of course, often called for. Cases are occasionally met with in which, at the onset, the symptoms are too intense to justify any local treatment other than the douche, sitz bath, etc. I have entirely discarded, since using the spray, the so-called "dry treatment" of vaginitis.

In non-specific catarrhal affections greater latitude, after the parts have been prepared by the antiseptic spray, may be exercised in the selection of the local medicament. If the discharge is purulent and the cervix abraded, there is nothing better than Calendula officinalis, forced into the tissues in the form of a fifty per cent. glycerin solution, and followed by a tampon saturated in the same preparation. If the leucorrhea is profuse, stringy and tenacious, and especially if the glands of the cervix are involved, the aqueous extract of Hydrastis Canadensis should be substituted for the Calendula, prepared and applied in exactly the same way, the distended cervical glands being first punctured. If the periuterine tenderness is marked and there are inflammatory deposits with hyperplasia, iodin has proved most serviceable in my hands. This may be advantageously supplemented by a lamb's wool tampon medicated in the following solution:

Ichthyol	℥iss.
Tincture of iodin	℥i.
Liq. hydrastis (glycerite)	℥iv.
Acid carbolic	gtt. x.
Boroglycerite (25 per cent.)	℥iv.

My object is not so much to give the medicaments used by me as to call attention to the method of applying them. The treatment of each individual case will, of course, vary according to the indications, and each physician can select his favorite remedies

and apply them with infinitely more satisfaction than is possible without the spray. I am curing these unnatural discharges in less than half the time required under the older régime. When one takes into consideration the glandular structure of the tissues involved, and realizes the force by which the spray under a pressure of thirty pounds is delivered, it is not difficult to understand why this is so. My only wonder is that the spray has not been generally utilized for this purpose, especially in view of the fact that the nose and throat men have for years found it so useful in the treatment of the catarrhal affections of the respiratory tract. The ordinary hand spray is of but little value because of its limited air pressure. Air tanks, such as the nose and throat men use, can now be had at comparatively small expense and will answer every purpose. I have a series of Davidson atomizers and find them very satisfactory for gynecological work. For solutions used but rarely it is well to have a small metal atomizer, so that a small amount of the medicament can be quickly brought into action when required. Cocaine can be most effectually applied to the mucous surfaces by this method. I also use the spray in the treatment of rectal and sigmoidal diseases, applying it through the Kelly proctoscope with the patient in the knee chest position. One can, by means of reflected light, get a perfectly clear view of the mucosa of the sigmoid and descending colon, and in chronic sigmoiditis the greatest possible benefit will often follow local spraying of the gut.

Where the hot vaginal douche is used and there is inflammation to overcome it should be in large quantities in order to obtain the thermic action of the water. It is, however, entirely possible to overdo the matter of hot douching. If there is much relaxation of tissues, the water should be tepid, and in certain instances cold. It may be medicated as the indications require. If the discharge is of a tenacious character, the Aqueous Extract of Hydrastis is a most useful remedy. If it is purulent the Aqueous Extract of Calendula is indicated. If the external genitalia are irritated by the discharge, the parts should be protected by applying to them some of the cerates ordinarily used for pruritus vulvæ. If the discharge is offensive, the water may be medicated with permanganate of potash, carbolic acid, creolin or thymol. One of the following formulas may be used if indicated:

℞.—Creolin .....gtt. xxx.
Ex. Hydrastis Canadensis.....f℥iiss. M.
Sig.—Dilute in one pint of water and inject at night. (When the discharge is tenacious and offensive.)

℞.—Acid boracic .....℥vi.
Aq. ferventes .....Oi. M.
Sig.—Use at one injection. (When discharge is irritating.)

℞.—Acid tannic .....℥iv.
Glycerinæ .....f℥xvi. M.
Sig.—A tablespoonful to a quart of tepid water and inject. (When there is much relaxation of tissue.)

℞.—Zinci sulphatis.
Aluminis sulphatis .....aa ℥iss.
Glycerinæ .....f℥vi. M.
Sig.—A tablespoonful to a quart of hot water, as an injection. (In chronic gonorrhea.)

HOMŒOPATHIC THERAPEUTICS.

The internal remedy should be directed toward the constitutional conditions whatever they may be—anemia, chlorosis, plethora, malaria and general debility. The bowels should be kept open and the diet and exercise carefully regulated. While as a rule outdoor exercise is beneficial, it should never be violent. Running the sewing machine is pernicious, as is standing for too long a time behind the counter. Leucorrhea is very common among sewing and shop girls.

One of the most useful of all the constitutional remedies for leucorrhea is *Calcarea Carbonica*. It is, in the language of William Boericke, "the great Hahnemannian anti-psoric constitutional remedy *par excellence*." It is especially useful where there is swelling of the glands with scrofulous and rachitic conditions generally. There is increased local and general perspiration; leucorrhea is like mucus or like milk; too early and too profuse menstruation. There is paleness of the face; weak feeling in the chest, and cold damp feet. The patient is worse in the cold air, from exercise, and during moist, wet weather. In women particularly nervous Calcarea Phosphoricum is the preferable form

of lime to give, especially if there is anemia with a tendency to chronic wasting.

Arsenicum, like Calcarea Carbonica, is a remedy which acts most profoundly. The constitutional dyscrasia is manifested by debility, exhaustion and restlessness. The pains are burning pains; the leucorrhea is burning and corroding. The patient's constitutional symptoms are usually better from heat and worse from cold, cold drinks, etc. If the discharge is especially excoriating, I prefer Arsenic in the form of iodid and usually give it in the third decimal trituration. The discharge irritates the membranes from which it flows and over which it flows. The mucous membrane of the vagina is red, angry, swollen and there is a good deal of itching about the vulva.

Hydrastis Canadensis is especially indicated if the leucorrhea is of a very tenacious character, when it can be advantageously used locally as well as internally. There are, not infrequently, erosions and superficial ulcerations of the cervix and vagina. There is indigestion with great sinking and prostration in the epigastrium with prolonged and continued palpitation of the heart.

Alumina.—Leucorrhea occurring especially before or after the menses, which is acrid and is relieved by washing; profuse, transparent and mucous leucorrhea; discharge of blood between periods and after every little accident, suggesting an ulcerated condition of either the cervix or the vagina. The mucous membranes other than those of the genital organs, are dry.

Sepia.—There is a sense of pressure and bearing down in the pelvic organs. The Sepia patient is usually weak and the complexion yellow. There is a frequent desire to urinate with itching of the genital organs. It is a remedy to be thought of particularly during the climaxis and pregnancy.

Helonias.—General atony, anemia and torpid condition of the system; leucorrhea with pain in the lower part of the back; soreness and tenderness of breasts and nipples, particularly at the catamenial period.

CONCLUSIONS.

1. Leucorrhea, like amenorrhea, dysmenorrhea and menorrhagia, is but a symptom of some abnormal condition, either local or general, and the first duty of the physician is to determine its cause and remove it if possible.

2. Except in the milder forms of leucorrhea which give rise to no serious inconvenience either locally or generally, a careful physical examination should always be made. This comprehends a microscopic and bacteriological examination of the discharge.

3. The old routine method of treating leucorrhea is both unsatisfactory and unscientific. The unnatural discharge can be much more quickly controlled by the use of the medicated spray than by any other method or methods, and the spray should therefore be installed in the office of every physician who has to care for gynecological cases. When the cause is specific the silver salts thus applied are of the greatest utility.

4. The constitutional bias so often responsible for an unnatural vaginal discharge should ever be kept in mind and, when present, should receive especial attention in the way of prescribing the proper diet, proper dress, proper exercise, and the properly selected internal remedy.

(*Vide* Chapter XI. for an extended discussion of the subject of Gonorrhea.)

CHAPTER V.

CANCER.

CASE I.—COLONIC CANCER.—This patient is 64 years of age. Nine months ago a surgeon in a neighboring city made an anastomosis between the ileum and the sigmoid for complete bowel obstruction due to a malignant growth in the splenic flexure of the colon. The patient had been for 48 hours vomiting fecal matter and this operation was a purely emergency operation and relieved him for the time being. He got up and about and felt very much better for three or four months. Then there began to develop excruciating abdominal pains with a feeling of distention and frequent attacks of watery diarrhea. While he gained in weight and was able to eat almost anything he desired, these attacks became so severe that he came to me for relief.

You will note that the abdomen is very much distended and that the area extending from the right inguinal region upward and across the transverse colon is dull. I shall make my incision in the left semilunar space extending from the rib margin to well below a transverse line corresponding to the umbilicus. I find, as you see, an enormous distention of the colon above the left splenic flexure and a practically collapsed gut below. I find a hard indurated mass in the region of the splenic flexure which completely obstructs the bowel. I find that the distention implicates the lower portion of the ileum. I have every reason to feel that the opening existing between the ileum and sigmoid is sufficiently large to assure patulency of the intestinal canal. Evidently the fecal matter has dammed back into the unused portion of the colon, so that the distention is enormous. It seems to me therefore that the only way to give the patient anything like permament relief is to remove the entire colon to a point above the anastomosis already made, together with a portion of the ileum. This I shall proceed to do by first clamping the colon with two clamps immediately above the anastomosis and cut across the intestine between the two clamps. I shall next clamp the mesenteric arteries in large forceps, the vessels, as you see, being greatly exaggerated, and cut away the entire

colon, and the ileum at a point ten inches above the ilio-cecal valve. I shall next crush the open end of the cecum, as well as that of the ileum, with strong crushing forceps, whip them over with Pagenstecker and invert them into the bowel. I shall next close the open spaces left in the folds of the mesentery by whipping them over with catgut, securing all bleeding points in the mesentery with catgut. I shall next irrigate the abdomen with the normal salt solution, leaving a litre of it behind and carry a long cigarette drain into the lower part of the pelvis. I shall finally close the abdominal wound in the usual way. The operation has been long and hard and tedious, but the patient is removed from the table in fairly good shape. I shall place him in the Taylor position and if necessary use hypodermoclysis with 10 minims of adrenalin. The mass removed weighs 21 pounds and is, as you see, for the greater part of its length seven inches in diameter.

CASE 2.—UTERINE CANCER.—The next patient is 40 years of age. She is a large, fleshy woman and has had two children. She is married the second time. Once before when she was pregnant she vomited persistently for three months when she miscarried. She began to vomit eight weeks ago immediately following the first missed period and has vomited so persistently since, that in spite of every effort in the way of careful dieting, full doses of bicarbonate of soda by rectum and under the skin, there being acetonuria, she is becoming so exhausted it seems best, after proper consultation, to empty the uterus. However, when I come to operate, I find a condition of the cervix which I believe to be malignant without question. I shall then close the cervix from below by means of four interrupted Pagenstecker sutures, sterilize the vagina and open the abdomen. I shall remove the entire uterus with the cervix, the broad ligaments, the ovaries and tubes, and at least the upper third of the vagina. I shall tie off all pedicles with catgut, carrying a small gauze drain into the vagina through the vaginal opening. I shall cover all raw areas as completely as possible with peritoneum. The appendix is thickened and I shall therefore remove it in the usual way.

CASE 3.—BREAST CANCER.—This patient is 26 years of age;

one child three years old; family history negative so far as cancer is concerned. She is four months pregnant for the second time. She noticed a lump in the right breast two years ago following a blow, which is now growing rapidly. Notwithstanding the fact that she is pregnant, I deem it best to remove the breast according to the most radical method. I shall, however, before doing this have my pathologist make an immediate section. He reports "malignant adenoma" so that I shall proceed with the operation. After doing the Halstead operation, cutting away both the pectoralis major and minor muscles and thoroughly emptying the axillary and subclavicular spaces, I have removed so much of the skin area that it will be necessary to cover the wound by skin grafting. This I shall do by the Thiersch method.*

CASE 4.—RECTAL CANCER.—The fourth case I have to show you is one operated upon four years ago at the Warren, Ohio, hospital, and was referred to me by Dr. B. G. McCurly, of Cortland, Ohio. I was also assisted by Dr. C. S. Ward, of Warren. There was an epithelial growth of the rectum as large as the fist, ulcerated and exceedingly offensive. The patient was extremely emaciated. There was no apparent involvement of the inguinal glands. I made a free excision of the entire rectum, including both sphincters, removed all cellular tissue from the iliac fossæ, separated the rectum from the vagina with perfect ease, and freed the rectum as far as the peritoneum to a point well above the cervix. The gut was then cut off, after clamping with forceps, and iodoform gauze passed into the rectum to prevent soiling of the wound. The proximal end of the gut was then brought down, twisted and stitched to the skin area with mattress tension sutures and a catgut buttonhole suture.

I am showing you the results of this case for the purpose of emphasizing the fact that even in what seems to be a perfectly

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*The disease recurred in the axillary area and a second operation was done on October 8th, eight months following the first operation and four months following the delivery of a normal healthy child. It later recurred in the mediastinum involving the lungs. Death occurred one year from the first operation. A peculiar feature of this case was that the entire lower half of the body corresponding to the side operated upon became covered with a heavy growth of hair.—J. C. W.

hopeless rectal cancer, the patient can be made fairly comfortable. By a little watching of the bowel, emptying it every morning at a certain time, she has no particular trouble in the way of soiling herself. She, of course, has but little or no control of the gases. She tells me that she is entirely comfortable and suffers no pain. There is no evidence of a recurrence of the growth, although the operation was done four years ago.

Case 5.—Stomach Cancer.—I am presenting this case to you for the purpose of showing what can be done in the way of operation in stomach cancer. I think that you will agree with me that this patient is a pretty strong, husky looking chap. . In 1908 I was called to see him in consultation because of bleeding from a peptic ulcer which came very near carrying him off. He had, under proper treatment, apparently recovered from this attack but eight weeks later was seized with a second attack with the pain in the region of the appendix. He again recovered and was apparently in fairly good health when he had a third attack, ten days previously to the time I first operated. There were some things peculiar about this last attack which were misleading. The pain extended down into the testicle and bladder, and as there was oxaluria I more than suspected renal calculus. There was no circumscribed tenderness over the region of the appendix. There was but little vomiting. The temperature at one time reached 102° F. He was obstinately constipated. He, however, after the bowels had moved freely, got better from this attack, although there remained a good deal of pain in the abdomen and in the region of the bladder.

On November 18, 1909, I attempted to remove the appendix through a short incision near the anterior superior spinous process. I found, however, on exploration that no intestine of any kind could be reached in this locality with the patient in the flat dorsal position. After enlarging this incision a mass was felt resembling an inflamed appendix to the left of the median line between the rectum and the bladder. I therefore closed the lateral incision, made a median one above the pubes and after a good deal of difficulty lifted into the wound the cecum together with the appendix, which was post-cecal. The appendix, while not gangrenous, was so soft and rotten that it tore when

grasped with forceps. It was with a good deal of difficulty that I succeeded in freeing the appendix from its adhesions. I could not invert the stump because of the thick and inflammatory condition. I therefore circumcised the appendix, stripped the peritoneum, tied it off and covered the stump with peritoneum, and then tied over the entire raw area the stump of the mesentery. The patient convalesced ideally from this operation and was very much better for about nine months when he began to experience suffering in the region of the gall bladder, resembling very closely biliary colic. It was, however, difficult to determine the exact cause of these attacks, so after their repeated recurrence I opened the abdomen from above through a right semilunar incision. I explored carefully the gall-bladder and its ducts to find these structures apparently normal. I also explored the right kidney but could find no evidences of stone in the kidney or in the ureter. I did, however, find just above and involving the pylorus a hard indurated mass which subsequently proved to be malignant. I removed the lower third of the stomach, cutting away with it two inches of the duodenum, the distal end of which I crushed and inverted and then did a posterior gastro-enterostomy. The patient again convalesced ideally from this operation and has since been able to eat almost anything that he desires to eat, although he has had from time to time attacks of melancholia associated with oxaluria. He weighs over two hundred pounds and is, except for varicosis of the veins of the legs, in perfect health.

Case 6.—Rectal and Vaginal Cancer.—I want also to show you another case of cancer of the rectum and the vagina operated upon for the first time in March, 1912. There was a hard, nodular growth in the left gluteal fossa involving the lower portion of the rectum, extending well into the inguinal region of the corresponding side, and into the right gluteal region. In operating this case both gluteal fossæ were cleaned out most thoroughly. At least four inches of the rectum were removed and a portion of the vagina. Hemorrhage was very profuse. The large cavities in the gluteal fossæ were partially closed with superimposed layers of catgut. The rectum was stitched to the skin area with superficial stitches, these being supplemented by deep

mattress sutures. The rectum was also twisted upon itself slightly, for the purpose of giving the patient better control of the bowel, before it was stitched to the skin area. Both sphincters were entirely cut away. The patient returned home and was in good health, enjoying life in every way for two years when she returned with a growth in the right gluteal region, with apparent involvement of the corresponding inguinal region as well. Three months ago I operated for the second time cutting a still larger portion of the vagina away, and turning her over to my Roentgologist for x-ray work. Now the enlarged glands in the inguinal region have disappeared, the patient is again comfortable and although she is 70 years of age, which is in her favor, so far as recurrence is concerned, ought yet to have several years of comfort and freedom from disease.

REMARKS.—The cases which I have presented to you were all rather desperate ones and I have selected them for your consideration for the purpose of showing you that it is entirely possible, in reasonably favorable cases, to prolong life through surgical means even though carcinoma be well advanced, no matter what part of the body surface or what internal abdominal and pelvic viscera may be implicated in the malignant process. Case 1 was a most desperate one, as I think you can readily believe after witnessing the operation. I am inclined to believe that the surgeon who did the anastomosis handled it just right in doing what he did as a preliminary procedure, for I do not believe from what the patient tells me that he could have stood at the time of that operation resection of the bowel. It undoubtedly would have been better had the resection of the bowel been made as soon as conditions warranted so radical an operation. The long and extreme distention of the colon with fecal matter has surcharged his system with toxins and has caused him untold agony because of the tenesmus excited. His condition is, of course, now desperate and naturally I shall be most apprehensive regarding his recovery. There is, however, one feature of his case that I desire especially to emphasize. In the October, 1912, number of *Surgery, Gynecology and Obstetrics,* Dr. B. F. McGrath of the Mayo staff has a most scholarly dissertation on what has been termed "Colonic Diverticulitis." In

that article McGrath shows the extreme difficulty of sometimes differentiating this condition from cancer. Dr. James W. Ward has also recently written (*New England Med. Gazette*, June, 1915) on "Diverticulitis of the Sigmoid Colon," citing two clinical cases. Ward believes that carcinoma is not an uncommon sequel of chronic diverticulitis. I have now under observation a prominent professional man who was sent home to die with what was supposed to be an inoperable cancer of the splenic flexure of the colon. His surgeon is a man of broad experience in abdominal surgery, a most able diagnostician and a man of ability in every respect. This patient five years following the prognosis given is not only alive, but apparently perfectly well. Unquestionably this was a case of diverticulitis.

In Case 2, I believe that the microscope will prove beyond peradventure that this is an epithelial growth. Although I performed the seventh vaginal hysterectomy ever reported in the United States, and the first in Michigan, I now rarely operate through the vagina alone for uterine cancer, preferring in most instances the combined vagino-abdominal method.

The history of mammary traumatism in Case 3 is most significant. In a very large per cent. of breast cancers such a history is obtainable. This is the first time that I ever removed a breast for cancer during pregnancy. This patient had for some time following the operation the application of the Roentgen rays to the right breast and axillary areas. Pregnancy, in both breast and uterine cancers, usually hastens their development.

Case 4 shows what can be done in cancer of the rectum even though the conditions appear most hopeless.

Case 5 had a history of a bleeding peptic ulcer which so frequently precedes cancer. It goes to show that there is an element of danger in the exclusive medical treatment of peptic ulcers of the stomach and duodenum over and above the recurrence of the hemorrhage, which I fear is too often overlooked by the internist. There is a preceding history of stomach or duodenal ulcers in a very large per cent. of stomach and duodenal cancers. This patient is in the hospital at the present time for the purpose of having a nasty varicose ulcer located over the anterior tibial area of his left leg cared for. He suffered from varicose veins

long before he had any of his abdominal trouble. After long and unavailing palliative treatment I tied off and severed the long saphenous vein above and circumcised the leg below the ulcer, cutting off the entire superficial venous supply, resected the ulcer and skin grafted. You will see that the grafts caught nicely and I think that we are going to have ideal results.

In Case 6 the enlarged inguinal glands disappeared after the removal of the growth. This was possibly due to the X-ray treatment. I am more inclined, however, to believe that it was due to the removal of the recurring septic mass which was draining itself into the inguinal glands This is frequently observed in operating for cancer where neighboring glands are enlarged. It does not necessarily mean that they are enlarged because of carcinomatous infiltration. It is, however, always better to remove them if possible when enlarged. In this particular case they were thoroughly removed at the first operation and I believe that I was justified in turning the case over, after the radical work on the vagina and rectum, to the Roentgologist.

THE ORIGIN AND NATURE OF CANCER.

Cancer or carcinoma is, according to the dicta of pathologists, a malignant tumor having its origin in the epithelium. In the animal economy epithelium plays two great parts: First, it is secretory when found in glands; and second, protective when found in skin. One of the simplest classifications of cancer therefore is "squamous-cell cancer" when it has its origin in the protective epithelium, and "glandular cancer" when it has its origin in the epithelium of the glands. Because of its insidious onset, its painlessness during the early stages, its destructiveness, the manner in which it affects lymph glands, the involvement of different organs through dissemination, the terrible suffering incident to its full development, and its hopelessness when it passes beyond a certain stage, its importance cannot be overestimated. Notwithstanding the fact that the destructive character of cancer has been known since the earliest dawn of medicine, we are today yet in ignorance regarding its cause. Men of large experience and wide reputation not infrequently make mistakes in the early diagnosis of cancer.

As to its causation the embryonic theory of Conheim was for

a long time upheld by many. According to this theory all tumor formations have their origin in a matrix of embryonic cells; without these cells, according to Conheim, there can be no true tumor, either innocent or malignant, even though intrinsic and exciting causes exist. Conheim teaches that these cells are always of congenital origin and can be traced back to embryological formation; that in the growth of the embryo they are displaced or arrested in their development and remain latent until favorable conditions exist for their proliferation, which is the beginning of all true tumors. Senn, while believing that the tumor matrix is always composed of embryonic cells, taught that the embryonic cells may be of post-natal origin. Thus, in the healing of a flesh wound or a fracture, certain cells, instead of undergoing transformation into tissue of a higher type, remain in a latent or inactive state for an indefinite period of time. Under the influence of either hereditary or acquired causes they may form the essential starting point of a tumor if there be on the part of the organism a diminution of physiological resistance. The local causes on the other hand may diminish the physiological resistance of the tissues in the immediate vicinity of the tumor matrix only.

Warbasse observes that the greatest obstacle to the acceptance of Conheim's theory is the fact that "these hypothetic separated cells cannot be discovered and experiments have done little to support the theory." The theory, however, indicated a line of inquiry which seems to afford a solution to several difficult problems.

Pathologists of to-day speak of *vestiges* and *rests*. By vestiges is meant the remnants of organs functional in vertebrates lower than man; organs that are of importance to the embryo but useless to the adult; organs that were utilized in one sex but were useless in the other. All organs that are of known use to the vertebrates now living were doubtless of importance to their ancestors, *e. g.*, the parovarium, Gartner's duct, the vitello-intestinal duct, the urachus, the central canal of the cord, the mesonephros, etc.

The detached fragments of glands and isolated portions of epithelium are known as *rests*. There is scarcely a cyst known to which pathologists cannot ascribe an origin in some pre-existing

duct, tube gland or vestige. Sarcomata belong to the connective tissue type of tumors.

In 1887 Scheuerlen reported a cancer bacillus which had been obtained by culture. Experiments were made with cultures from these bacilli on lower animals but the results were negative. The parasitic theory has, however, since 1887 had its warm advocates and many who are closely acquainted with the clinical and pathological features of carcinoma feel strongly that this disease should be defined as a chronic infective disease due to a micro-parasite which selects an epithelial cell. The facts which support this theory are as follows: First, it is purely local at its beginning, gradually spreading to the adjacent tissues and at the same time infecting lymph glands, which receive the lymphatics from the affected area, and finally ending in general infection of the body through dissemination. Secondly, the cachexia from toxemia is often out of all proportion to the extent of the disease. As in syphilis and other chronic infectious diseases, cancers not infrequently have a period of quiescence and then enter upon a period of recrudescence. Third, the infectiousness and vitality of cancer cells is a strong argument for those who are seeking for a parasite as the cause of the growth.

In order, however, to fully satisfy scientific skepticism, Koch put forth the following postulates:

1. The micro-organism must be present in all cases of the disease.

2. It must be capable of being cultivated apart from the animal.

3. It must reproduce the disease when inoculated into a healthy animal.

It will hardly be claimed by the most enthusiastic believers in the parasitic theory that the foregoing postulates have as yet been satisfied.

Those who teach that cancer is of parasitic origin maintain that the part played by heredity has been greatly overestimated in the past. Indeed, some of the advocates of this theory would entirely remove cancer from the domain of heredity and place it among the infectious diseases. It cannot be denied that certain evidence tends to prove the infectiousness of cancer. Thus Shat-

tuck cites an instance where four patients living under a common roof, and unrelated by blood, were attacked by cancer within a period of thirteen years. Chapman has placed on record three successive cases of cancer of the rectum, also unrelated by blood, who were occupants of the same house. A still more striking instance is that recorded by Powers. Three housekeepers, unrelated, slept in succession in the same bedroom for several years. All were in good health at the time of their installment. The first died of cancer of the stomach; the second of cancer of the liver; and the third of cancer of the breast. Feissinger reports four cases of cancer coming under his observation which were traced to dressings from a scirrhus of the breast. I myself have had several instances where in operating for abdominal cancers the disease returned in the suture wounds and in the abdominal scar.

Unfortunately nothing is said in the records of any of the foregoing cases as to the existence or absence of heredity. While undoubtedly the importance of hereditary influence has been overestimated in the past, no one who has had much to do with cancer will I think ignore it *in toto*.

I think, then, in view of what has been said, that we are justified in the following conclusions:

1. That Conheim's embryonic theory as modified by Senn has much to commend itself to the practical clinician in explaining the origin of tumors, both malignant and non-malignant, even though not generally accepted by modern pathologists.

2. While the infectiousness of cancer through germs has not yet been proved beyond peradventure, with the evidence in our possession the possibility of inoculation from one human being to another, or from one locality to another, does not seem improbable.

3. These two theories (the embryonic and the parasitic) are not incompatible, inasmuch as the embryonic matrix may be the essential nidus for the reception of the microscopic parasites which are supposed by many to be the primal cause of cancer,

Von Hansemann (*Jour. A. M. A.*, September 5, 1914) divides all history of cancer research into a number of periods. The first is the histological morphologic period. This, according to

von Hansemann, was the beginning of exact investigation by scientific methods. By studying the anatomic structure of cancer a number of characters were learned which distinguished it from healthy tissues and from pathological changes of other sorts. This knowledge enables the surgeon to operate early with a prospect of completely eradicating the disease.

The second period is the so-called "etiologic period," during which time the theory of irritation was developed. This teaches that the origin of a cancerous tumor depends upon some sort of irritation but in such a way that irritants of various kinds may produce the same sort of a tumor, or that irritants of the same sort in different individuals may produce different kinds of tumors. It is, for instance, well known that the irritation produced by the Roentgen rays may cause cancer; or, according to Fibiger, of Copenhagen, such irritation may also be produced by parasites, not in the sense that parasites cause cancer in the same way as the comma-bacillus causes cholera, but that the presence of the parasites produces an irritation that in one case may have no consequences; in another case a slight inflammation may set up; in a third a benign growth; and in the fourth genuine cancer may develop.

The third period is "the experimental cancer research period." On a single occasion it was found possible to transmit genuine cancer from one rat to another and a tumor was found in mice with which experiments were conducted for years almost exclusively. But no results of practical importance for cancer in man have been realized, for this tumor of the mice differs in important respects from the cancer of man and the observations made on it cannot as a rule, be transferred to human cancer.

The fourth period is the so-called "therapeutic period" which will be referred to under the head of treatment.

THE ETIOLOGY OF CANCER OF THE UTERUS.

Thirty-three per cent. of all cancers in women occur in the uterus, and in at least ninety per cent. of uterine cancers the disease begins in the cervix. It is well known that the involution of the blastodermic layers is more irregular at the natural orifices of the body; and that the squamous epithelium of the sinus urogenitalis blends with the cylindrical epithelium of Müller's ducts

at the internal os. Embryonal cells are found in excess at this point and not infrequently they are displaced. These two varieties of epithelium, of different embryonal origin and of different shape, create a tendency to plastic paramorphism. Here then we have, if there is anything in the theory of Conheim to tie to, the essential tissues in abundance for the production of cancer. Less than five per cent. of uterine cancer occur in nullipara, and according to Winckle's statistics the average number of children in multiparous women victims of cancer was something over eight. These facts speak volumes and at once direct attention to childbearing as a causative factor and emphasize the importance of the so-called irritation theory. Personally, I have met with but one case of cancer of the uterus in a virgin; and in a very large per cent. of cases occurring in nulliparæ it is probable that the cervix has been in some way injured, or has been everted by inflammation. In cervical lacerations an effort is made on the part of nature to heal the rent and in the majority of instances a low type of tissue is formed which contains many embryonic cells of post-natal origin In the surrounding tissues are numerous embryonic cells of fetal origin. The cicatricial plug almost constantly present in cervical tears interferes with the circulation of the uterus and constant congestion is maintained. There is usually eversion attending the laceration, when the cervical mucous membrane is at all times irritated by friction. The entire organism is more or less unfavorably impressed by the local disease, and altogether there is induced a condition which diminishes both general and local physiological resistance, and which encourages the embryonic cells to take on vicious action; or possibly permits of the entrance of specific organisms, if such there be, into the tissues.

The important part played by irritation and traumatism in the production of cancer is shown by the predilection which the disease has for those organs and structures most exposed to irritation and traumatism. The gall bladder, the pylorus, the mammary glands, the lips, the rectum and the scrotum are all subject to special forms of irritation and injury, and we find these several organs especially prone to cancer. What then concerns the physician most in cancer of the uterus is that it occurs with over-

whelming frequency in women who have borne children; that the larger number of cases are met with after devolution of the sexual organs is inaugurated (35), at which time the physiological resistance is on the wane; that it is associated with various diseases which perpetuate undue congestion of the pelvic organs; and finally that it can be prevented in the larger number of instances by correcting the several conditions which have been enumerated as exciting factors.

I have in another place* recorded five cases of cancer of the uterus associated with infectious lesions (gonorrhea) of the ovaries and tubes. Since recording those cases I have met with several more uterine cancers associated with disease of the appendages.

Let me then, before proceeding to discuss the treatment of cancer, call your attention to some of the most distinguishing features of the disease.

1. In the majority of cancers there will be found a precancerous condition which if cared for would undoubtedly have prevented the development of the disease. Constant irritation of the lips, tongue, cheeks, glans penis, scrotum, anus, vulva, stomach, gall bladder, vagina, cervix, etc., is liable to produce cancer. Chronic ulcers of the skin and esophagus and chronic syphilitic ulcer of the tongue may become the seats of cancer. Malignant disease of the thyroid gland is very common, according to John Bland-Sutton, in districts where goitre is endemic, and an excessively rare affection where goitre occurs sporadically. According to the same author, primary carcinoma of the gall-bladder is three times more common in women than in men and this evidence indicates that if gall stones do not actually predispose to or cause cancer of the gall bladder there are some closely allied conditions favorable to the occurrence of each.

2. Squamous-celled cancer, wherever found, destroys life rapidly. It ulcerates quickly and overcomes all resistance, not infrequently opening large blood vessels, should any lie in its way. Death from hemorrhage is, therefore, frequent. When the disease involves either the labia, vagina, uterus, or bladder it usually induces death from the hindrance it offers to the escape of the urine.

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*Author's Text Book of Gynecology, Second Edition, page 608.

3. The most distinguishing feature as between cancer and innocent tumor is the fact that the primary lesion in cancer is not circumscribed. Even when the periphery of a cancer is subjected to microscopic scrutiny, the histologist is unable to discern with accuracy the limitations of the cancerous territory—hence the importance of early, broad and thorough dissection.

Handley has shown how a cancer of the breast, if the patient lives long enough, may permeate the deep fascia throughout the entire body.

4. All of the surfaces of the body, whether skin or mucous membrane, are rich in lymphatics. These lymphatics convey the cancer area to the associated lymph glands which may in turn become so surcharged as to burst their capsules. Occasionally lymph channels are so stuffed with cancerous material that they may be dissected from the connective tissue and traced to the lymph glands. Another distinguishing feature of cancer is that minute detached portions of the diseased tissue possess an astonishing vitality and a power of independent growth. For instance, a secondary cancerous deposit in the humerus has been found with all the characters of the gland nodules; that peculiar form of hepatic cancer which arises in the biliary ducts has been found in the lungs; a multitude of secondary nodules has been found in the skin with the structural features of gastric glands. In other words it has been demonstrated beyond all question that carcinoma wherever found takes its type of epithelium from the secretory glands in which it arises.

TREATMENT OF CANCER.

If it be true that carcinoma is at its beginning a local affection becoming general only as it extends by continuity of tissue, or by broken down debris being carried into the blood and lymph streams, *the possibility of curing the disease depends entirely upon an early diagnosis and early operative interference.* This applies to carcinoma wherever located, but emphatically so to carcinoma of the uterus because with no other removable organ of the body is it more difficult to reach beyond the parts primarily affected. That the disease does in the beginning localize itself in the uterus is I think clearly proved by the large number of operated cases now on record and by the observations of Russell

made as long ago as 1896. In 37 cases of cancer of the uterus observed by Russell in the Johns Hopkins Hospital which were operated, 38 per cent. died with recurrence, in none of which could a distinct history of metastasis to other organs be elicited. In ten autopsies on inoperable cases made in John Hopkins Hospital metastasis beyond the pelvic and retro-peritoneal lymph glands was found in but one. In four the pelvic and retro-peritoneal lymph glands were implicated. It is, nevertheless, a reflection upon the diagnostic acumen of the medical profession that at least fifty per cent. of all cases of cancer of the uterus will have passed beyond the operative stage before coming under the observation of the specialist; and what is true of uterine cancer is true to a large degree of cancer of other organs. The treatment then naturally resolves itself into—

(a) Prophylactic;
(b) Palliative;
(c) Curative.

Prophylaxis.—In view of what has been said regarding the etiology of cancer it is evident that a very large percentage of all cancers could be cured by directing attention to the precancerous conditions which in nearly all instances give rise to local irritation. Therefore all women who have cervical lacerations which produce ectropium and perpetuate an endocervicitis should have such injuries repaired. Lesions of the appendages when they exist should receive attention. Gall-stones should be removed when present. Papillomatous growths giving rise to the slightest irritation, no matter in what part of the body they may be found, should be removed. Careful attention should be paid to gastric and duodenal ulcers. Rectal fistulæ, fissures and ulcers should be overcome. The patient's metabolism should be carefully looked after, for when the bodily functions are in perfect order and the opsonic index normal, there is infinitely less danger of any infective organism doing serious harm. Non-malignant lesions (fibromata, lipomata, chrondromata, endotheliomata, neuromata, etc.) whenever they interfere with function and are operative should be removed, for there is abundant evidence going to show that transformation of innocent into malignant growths is not uncommon. Women who are victims of badly

lacerated cervices, and who will not or cannot undergo an operation, should submit to local examination at least every six months.

Palliative Treatment in Uterine Cancer.—This includes the management of the *hemorrhage,* the *pain* and the *leucorrheal discharge.*

The hemorrhage can be favorably affected in most cases by internal medication. If from the cervix and great enough to exhaust life, the patient must be tamponed. Local medicaments such as a saturated solution of alum, a weak solution of perchloride of iron, adrenalin, etc., may be placed against the bleeding orifice. If the fetor is marked, iodoform gauze may be used for tampon material. After infiltration of tissue takes place, pain becomes a most prominent and distressing symptom. The pain can many times be controlled by the local use of anesthetic and narcotic agents. I am inclined to believe that iodoform is not only a powerful disinfectant, but that it is also a local anesthetic of much value. Opium, either in the form of suppositories or applied directly to the ulcerated surface, is beneficial. Ichthyol in a 10 per cent. glycerin solution is also a useful application. The internal homœopathic remedy is also invaluable in nearly all cases of cancer. I am, however, compelled to admit that during the later stages of the disease I am unable to control the almost intolerable suffering incident to it without resorting to some of the forms of opium. This drug should nevertheless not be used until it is absolutely necessary, as it quickly exhausts itself and has to be repeated in ever increasing doses until the amount required is sometimes enormous. It is best administered hypodermatically. The leucorrheal discharge is to be contended against by the frequent use of antiseptic and disinfecting agents such as have been recommended in the preceding chapter devoted to leucorrhea. After the parts are cleansed with an antiseptic solution, a two grain iodoform suppository may be introduced into the vagina. Lysol and Creolin are also most useful antiseptic agents. The application of the actual cautery and the sharp curette are likewise to be considered as palliative measures.

Curative Treatment.—Of first importance in considering the curative treatment is early and radical surgical work. Especial emphasis should be placed upon the words *early* and *radical.* In

order that the surgeon may obtain his cases during this favorable period it is incumbent upon the general practitioner to watch for the early signs of malignancy; or indeed to watch for the symptoms which have been studied under the head of the precancerous period, and refer his cases to the surgeon before general dissemination occurs.

Von Hansemann considers radium and the Roentgen rays as surgical rather than medicinal measures, inasmuch as both destroy the tumor, although they do not actually cure the disease. He believes that it will never be possible to find a specific remedy for cancer. Bier on the other hand has accomplished with Roentgen therapy most remarkable results, at least for the time being. At a recent meeting of the Berlin Surgical Society he showed a patient who had been repeatedly operated upon for cancer of the throat and still the tumor had grown anew and of greater extent. The pictures which Bier showed from the time previous to the treatment made it clear to everyone present at that meeting that the case was very severe. A deep radiation with the Roentgen rays was applied to the tumor, while at weekly intervals from 8 to 10 gm. of blood of healthy hogs was injected. No trace of the cancerous tumor could be detected when the patient was examined. Bier did not venture to say how permanent the result would be or what would be the future fate of the patient and others treated in the same manner, and he would not state even his presumptions.

I have seen some striking effects of Roentgen therapy, and I now make it a rule whenever it is possible in the post-operative treatment of surface cancers, or cancers of the orifices of the body, to have a series of applications of the Roentgen rays made.

Bumm speaks most highly of the radio-active substances in the treatment of cancer. Bumm affirms that a curative effect cannot be obtained at a greater depth than 2 or 3 cm. from the surface without injury to the neighboring tissues, but in the case of superficial cancerous growths a quick and apparently permanent cure is obtained. In advanced cases in which infiltration in the neighborhood of the primary focus has formed, a cure of the superficial cancerous growth is obtained, but under the cicatrix in the depths of the tissues the carcinoma continues to grow, and

physicians who see the patient six months or a year later find a healed primary focus with fresh nodules in the deeper tissues. Dieffenbach, Lee and Bailey of our own school speak most enthusiastically of Radium as a curative agent in cancer.

Toxins and serums have been or are being experimented with in the treatment of cancer. Coley in 1901 reported a case of inoperable cancer and another of sarcoma cured with the toxins of erysipelas and the bacillus prodigiosus. I have tried the mixed toxins in several cases of carcinoma and in three of sarcoma. All were inoperable. In one of the carcinomas (cancer of the breast) the progress of the disease was unquestionably interrupted and the patient benefited. It, however, resumed its former course after remaining quiescent for three months. In two cases of carcinoma of the uterus the results were nil, although the injections excited a high fever and profound reactionary symptoms. In one case of sarcoma of the jaw occurring in a lad of 10, which I referred to Dr. Coley for personal treatment, the progress of the disease was stayed and the boy now 22 years of age, while his face is much deformed, is apparently in perfect health.

Dr. Howard W. Nowell, of Boston, has more recently given to the profession a new cancer serum. I visited Dr. Nowell's clinic and saw cases which were seemingly markedly benefited by the treatment and some apparently cured. In two cases of my own, treated by Dr. Nowell, neither was benefited. It is but fair to say that in both of these cases the disease was far advanced before Dr. Nowell's treatment was inaugurated.

There is a disposition on the part of the homœopathic profession to assert that the serums which have been exploited for the cure of cancer are homœopathic in their action. Indeed, there are many things to be said on the positive side of this assertion. If this be true, so far as I am personally concerned, the fact means nothing more than that it confirms the claims made by the older therapeutists of our school that cancers have been cured by the indicated remedy. I have arrived at a point in my professional career where it no longer matters to me whether a means to an end is homœopathic or not, if the patient is benefited by the treatment applied.

All sorts and kinds of internal remedies have in the past been

exploited as "cure-alls" in the treatment of cancer One of the oldest of the vaunted specifics is Chian turpentine. Another is Condurango; still another is parenchymatous injections of salicylic acid; still another is the hypodermic use of absolute alcohol alone; and still another is Pyoktanin used subcutaneously. So far as the indicated homœopathic remedy is concerned, I want to assert that in view of the difficulty of making an early diagnosis I believe it possible to so favorably impress the tissues involved, and the metabolism of the patient, by remedies having a specific action on those tissues, as to make such remedies useful in the prevention of cancer. I believe, too, that in the post-operative treatment of cancer, and for the same reason, the specific remedy is of great value. But I have no faith in any internal remedy, except perhaps the vaccines, curing the disease after it is once established. Years ago I went into this subject most carefully and I was unable to find one single authentic case where the disease had been properly diagnosed and properly observed that had been cured by any sort of internal medicine. I shall nevertheless give you the indications for a few remedies which are reported to have cured cancer. You will note that in all instances they are remedies capable, when given to persons in health, of impressing the system most profoundly. In the palliative treatment of cancer they are often of great utility.

HOMŒOPATHIC THERAPEUTICS.

ARSENICUM.—The pain is burning, agonizing, the secretion fetid, brown or blackish ichor; faintness; the burning pains are so intense that they are felt even while the patient is sleeping. In cancer of the uterus there is an acrid and corroding leucorrhea; there is emaciation with excessive debility; great restlessness. Useful for overcoming the septicemia present. In cancer of the stomach the pains are burning; there is persistent nausea and great thirst for small quantities of water which is almost immediately ejected. Dr. Hughes, in discussing Arsenic, says: "I prescribe Arsenic especially for carcinomatous ulceration. In the glandular tumors of this disease I prefer Hydrastis and in fungoid and bleeding growths Phosphorus; but in epithelial cancer of the lip, face and tongue Arsenic has unquestionably proved curative, and that not seldom." Bartholow of the older school recognizes

its power here, though he doubts its efficacy as to other forms of cancer. Arsenic will, however, do much to relieve the lancinating pains of many forms of cancer and counteract the resorption of the broken down debris. If there is extensive glandular involvement Iodid of Arsenic is the preferable form to give.

HYDRASTIS CANADENSIS.—Especially useful where there is ulceration of the cervix and vagina and where the discharge is tenacious, thick and ropy; very often there is marked pruritus vulvæ. There is decided cachexia with great debility, emaciation and prostration. Its action on the liver is marked and it is especially suited to so-called "scrofulous constitutions." There is always implication of the digestive organs. The late Dr. Pope, of London, reports the following case:

"A woman with a small, hard, adherent nodule in the breast, the nipple being retracted, presented herself for treatment. The usual pain of carcinoma was present and the case left no doubt in his mind as to its nature. He advised her to see Sir James Paget and get his opinion as to the expediency of its removal, because it was then that removal would do good if it ever would. The patient could not make up her mind to do this but said that she would think about it. He accordingly prescribed Hydrastis for her to take at once. In about a month or five weeks she came to him again and all appearances of the "carcinoma" had gone. He had never heard of the patient since and that was more than 20 years ago." Personally I do not believe that this was carcinoma. Certainly its cure, if carcinoma it was, does not conform to the postulates of modern science. It is more than probable that it was a simple non-malignant glandular involvement.

CONIUM MACULATUM.—There is hardness of the uterus or the breast with intolerable lancinating pains through the pelvis or through the mammary glands; acrid burning leucorrhea preceded by pinching pains in the abdomen; carcinoma following inflammation and induration of the various glands of the body; general feeling as if bruised by a blow; weakness of body and mind, trembling and palpitation; enlarged glands.

Hughes says: "Conium has had great repute of old in scirrhous cancer. The term "scirrhus" was applied to all tumors hard enough to merit the name. Caspar recommends it in the forming

stages of fibrous tumors of the uterus and two cases are mentioned treated by him in the Leopoldstadt Hospital in Vienna, the tumor in one disappearing and in the other becoming greatly diminished in size. But Homœopathy preserves to some extent the Storckian tradition of its efficiency in true malignant scirrhus, and there appears no doubt of its having checked if not cured cancer of the breast, lips and stomach when small doses were employed."

PHYTOLACCA.—Phytolacca is pre-eminently a glandular remedy. It also has a specific action on fibrous and osseous tissues. It has long been a favorite homœopathic remedy in chronic mastitis where the mammæ are hard and very sensitive. It is especially useful both locally and internally if there are cracks and small ulcers about the nipple; irritable breasts before and during menses; menses too frequent and too copious.

BOVISTA.—Bovista has a marked effect on the skin, producing eruption like eczema, also upon the circulation; predispostion to hemorrhage; marked languor and lassitude; leucorrhea acrid, thick, tough and greenish, following menses. Our erstwhile English confrere, Doctor Clifton, reports the following case:

"A patient had been under a dozen medical men for years, always ill. One man thought he was suffering from one thing and another from another, and at last a tumor appeared. He (Dr. Clifton) did not think it cancer at first, but ultimately he sent the patient to Sir James Paget, who sent him to Sir Prescott Hewett. He had a letter from that gentleman saying that 'this bears unmistakably all the microscopic characteristics of epithelioma and we advise operation.' The patient did not agree to that and put himself under his (Dr. Clifton's) treatment. Just at that time he had been reading up the provings of Bovista; it had no relation to the epithelioma, but it had all the characteristic symptoms which the patient had been suffering from for years, and which symptoms had subsided after the tumor appeared. He therefore gave him Bovista, which did the patient a great deal of good generally and arrested the growth. He then put him on Phytolacca, not because it produced anything like the symptoms—he did not believe they had any medicine which would produce symptoms like cancer—but the patient had other symptoms which Phytolacca removed. The symptoms came on again after some time but Phytolacca again removed them."

THUJA.—Cauliflower excrescence of the cervix; erosions of the uterus. Thuja has long been a favorite remedy with the homœopathic profession, both as a local agent and internally, in the treatment of wart-like excrescences upon mucous and cutaneous surfaces—fig warts and condylomata. Dr. Hughes says: "Dr. Quin has recorded a case of cauliflower excrescence of the os uteri in which the medicine was strikingly beneficial; it has served me equally well in completely curing a bleeding fungus of the breast after Phosphorus had brought its activity to a standstill. It also cured a celebrated case of Radetsky's in which a fungus tumor in the orbit seemed to disappear under its use. Suffice it to say that whatever you may be led to think of the sycosis theory of Hahnemann (which I should mention Dr. Jousset also holds, calling the condition a diathése epithéliæ), the presence of excrescences on the skin or mucous membrane may always suggest to you the use of Thuja."

The foregoing are the remedies with which actual cures of cancer have been reported in our homœopathic literature. Schüssler reports a case cured with Kali Sulphuricum. Other remedies to be thought of in cancer are Kali Bichromicum, Graphites, Creosotum, Lachesis, Calcium Sulphate and Phosphorus. I mention them merely to make my clinical talk on cancer complete, and not because I have any especial faith in their efficacy, although quite as much as I have in the more heroic remedies recommended for the same purpose in the literature of the older school.

CONCLUSIONS.

1. Cancer, because of its frequency and because of the fact that when seen during its early invasion is an entirely removable disease, becoming absolutely hopeless during its later stages, deserves most careful and conscientious consideration on the part of all medical men.

2. While there is much to be desired in our knowledge regarding the causation of cancer, there is no question regarding the influence of constant and persistent irritation in its production.

3. In our efforts to prevent cancer we should therefore remove all removable sources of irritation, at all times placing the patient in the best possible condition to resist infections of all kinds.

4. While there are most hopeful indications that in time there may be evolved a specific serum in the treatment of cancer which will prove curative without the use of the knife, it must be acknowledged that up to the present time no such treatment justifies the neglect of early and radical surgical work. In all instances, therefore, where a diagnosis of cancer is made radical surgical work is called for, which should later be supplemented by the use of some of the serums or vaccines now in vogue, or by the use of the Roentgen rays and Radium, as well as by proper internal medication.

CHAPTER VI.

MYOFIBROMO OF THE UTERUS.

This patient is 56 years of age, has been married for 20 years, has never been pregnant. Menstruation established at 15. Perfectly well as a girl, and although she has done the work of a farmer's housewife and is, to all appearances, not robust, yet she says that she was perfectly well until last October, when she had an attack of dysentery. This was most obstinate and was followed by a severe attack of inflammatory rheumatism, which kept her in bed for some weeks and which left the right knee stiff. Menses ceased at 51, when she passed through her climacteric without serious inconvenience. Latterly she has been inclined to constipation, although constipation has never been an obstinate symptom. For the last year she has noticed some pressure symptoms within the pelvis, especially on riding over rough roads. Physical examination shows heart and lung sounds normal, blood pressure 100-120; hemaglobin 80. Slight bulging in lower abdomen due to a soft fibroid as large as a child's head.

I do not anticipate any trouble in operating this case for the conditions are most favorable for safe and easy work. I shall make a reasonably long incision extending from the pubes to the umbilicus, making this incision as quickly and speedily as possible, controlling all hemorrhage before the peritoneum is opened. I shall now open the peritoneum, and as I do so you see projecting into the wound a tumor of some kind which, if the patient were not past the childbearing age, would make me suspicious of pregnancy. It is, as you see, almost symmetrical in appearance. It does not have the white, bloodless, shiny look of a tumor where the fibrous tissue preponderates. It is soft and flabby, and indeed looks like a five months' pregnant uterus; but the age of the patient makes pregnancy most improbable, and I shall therefore proceed to remove the growth by making a supravaginal amputation. I shall first secure the ovarian vessels of the left side with two forceps, making an incision between the forceps thus placed through the broad ligament down to its base; then catching in the forceps the corresponding uterine artery, which

is, as you see, much exaggerated in size, severing this artery; then incising the peritoneum immediately above the bladder, stripping the bladder downward with a gauze protected finger; then carrying my incision through the cervix at, or about, the internal os to the base of the right broad ligament; then catching the uterine artery of the right side between two forceps, and finally the ovarian artery of the right side in one pair of forceps (a proximal forcep is not necessary here because I now have the entire blood supply of the uterus blocked); and finally incising the right broad ligament, thus delivering the growth. This step of the operation has required less than four minutes. I shall next secure the blood vessels, in the order in which they were severed, with Pagenstecker. After this is done I am careful, as you see, by means of a continuous No. 2 chromic catgut ligature, to cover all raw areas with peritoneum. In doing this I draw the stumps of the broad and round ligaments into the cervical wound in such a way as to suspend the cervix, thereby preventing shortening of the vagina, while preserving the support of the pelvic roof. The appendix is elongated and thickened and I shall therefore remove it. I shall close the abdomen first with a No. 1 chromic gut ligature applied to the peritoneum, then with three substantial silk worm gut sutures passed through all of the tissues except the peritoneum, then a No. 2 chromic gut for the fascia and finally, after the tensions are tied, close the skin with Michel clamps. This technique has enabled me to close the wound speedily, quickly and thoroughly

Remarks.—I shall now open the tumor for your inspection and as you see it is a very soft myoma growing toward the uterine cavity, and is therefore technically called a submucous myofibroma. The term fibroid is something of a misnomer, for in all instances these growths are composed of both muscular and fibrous tissues, sometimes one tissue predominating and sometimes the other. In this particular instance the muscular tissue is largely in excess of the fibrous—hence the soft vascular character of the growth. All so-called fibroid tumors are at their beginning interstitial. They are made up largely of muscular fibres of the unstriped variety and are simply outgrowths from pre-existing muscle tissue in the uterine wall. Kleinwachter teaches that they originate from round cells in blood vessels

which later become obliterated. Rosger believes that they spring from the muscle fibres of the blood vessels; while Gottschalk and Vedeleo believe that they are of parasitic origin. In number they vary often from one to 100 or more—rarely are they single. They grow into the most irregular forms and shapes, usually either toward the peritoneal cavity, becoming sub-peritoneal, toward the uterine cavity, becoming submucous, or into the folds of the broad ligament, becoming intra-ligamentary. They may, however, remain indefinitely in the walls of the uterus (interstitial) assuming large dimensions. If the growth approaches either the serous covering of the uterus or its mucous lining, the surrounding parenchyma will be excited by its presence and the resulting contractions will force it still farther toward the abdominal or the uterine cavity, as the case may be. When a submucous fibroid becomes completely pedunculated it constitutes a fibrous polypus. On section, the tumor before you is of a pale flesh color. You see that the growth is enclosed in a layer of loose fibrous tissue which is surrounded by a muscular layer. This is the so-called capsule. But few blood vessels penetrate their substance, although the capsule and the contiguous structures often show large venous sinuses which supply nutrition to the growth by transudation. Occasionally they possess a cavernous structure of dilated blood vessels. Were we to make a microscopic section of this growth (which of course will be done) we should find it to consist of non-striped muscular fibres embedded in a fibrous stroma. Lorey has traced nerve fibres into the substance of fibroid tumors, although the substance itself is not sensitive. Sub-mucous tumors are sensitive while the capsule is yet intact because of the nerve supply of the mucous membrane.

Sub-peritoneal tumors may also be either pedunculated or sessile, the size of the pedicle varying greatly in different cases; as they grow upward toward the peritoneal cavity they drag the uterus with them and often greatly distort this organ. Should a tumor remain within the pelvic cavity it may become incarcerated. Occasionally the pedicle becomes twisted, as in ovarian tumors, with resulting edema and gangrene. Cases are on record where the pedicle has become completely separated, the growth attaching itself to the surrounding structures, thereby obtaining nourishment. Interstitial tumors are usually multiple

and many times cause an enormous increase in the dimensions of the uterine walls. In submucous tumors growing toward the uterine cavity, as has been shown, there are excited uterine contractions which tend to create pedunculation with resulting polypi. As time goes on they are not infrequently expelled from the uterus into the vagina, or indeed from the vagina into the world. I have in at least two instances found growths of this variety in the vagina as large as a fetal head, which could be removed only by applying to them obstetrical forceps.

Another variety occasionally met with is adenofibromyoma which is intramural, noncapsular and infiltrating and contains glands that have their origin in the endometrium (Schroeder) or in Gardner's ducts (Carl Ruge), or in the Wolffian body (Recklinghausen).

If a fibroid tumor is of some proportions, even though it does not give rise to serious inconvenience because of its size or because of hemorrhage, certain degenerative changes are liable at any time to occur. The first of these is *suppuration,* which occurs much oftener in the submucous than in the other two varieties. Anything that will interfere with the circulation of the growth may result in the formation of pus—the contracting of the uterus down upon a submucous fibroid is probably the most frequent cause—or it may result from operative interference.

Fatty and myxomatous degeneration may give rise to softening In myxomatous degeneration spaces are formed between the layers of the tumor which become distended with mucus. According to the teaching of Gusserow fibrocystic tumors of the uterus have their beginning in this way, though the more recent teaching is that cysts in fibroid tumor are of lymphatic origin.

Induration is not uncommon after the menopause, either naturally or artificially induced. There is atrophy and shrinking of the muscular tissue with subsequent contraction of the fibrous.

Calcificattion is the result of a species of calcareous infiltration and the deposition of lime salts, so that the growth is permeated with phosphate and carbonate of lime. I have several times met with this form of degeneration and have placed in the museum of the University of Michigan a uterus and tumor as large as a fetal head, which had completely undergone this change, so that

the second marriage had the appearance of a miraculous cure. In another case the uterus was distended with eight or ten ounces of serum, as also were a number of the Fallopian tubes, which were completely occluded. Hippocrates described a tumour of this kind that weighed 20 pounds. The process is similar to the transformation of pulmonary tubercles which undergo evacuation by perforation, or to the formation of a bronchocele. Suppuration may be associated with obstruction. Sometimes these occluded cysticles are expelled en masse per vaginam, constituting the so-called "membranous" of the older authors.

Malignant degeneration is much more common than is generally supposed. I have noted a considerable degeneration in 15 out of 46 ovary cases. One of these cases is worth closer study. Case 1 of my note-book (31 million). In 27 cases of this series I found true carcinomatous degeneration. In a series of 1,173 cases collected from various sources by Noble there were found cancer of the ovaries both in 1.5 per cent. and cancer of the cervix in 25 per cent. Martin, of Berlin, has placed on record six cases of fibroma and its allied connections, benign tumours with following the long-continued use of ergotin. The drug had apparently reduced the volume of the growth and controlled the hæmorrhage. In several of the cases recorded by Martin the carcinomatous change had invaded the cavity of the uterus without exceeding in the minor which led him to believe that myomas are never destroyed by carcinoma, though the two diseases may exist together.

I have also met with two cases of carcinomata of the cervix which penetrated into the vagina and so concealed the canal as to resemble an internal stricture. It was only by searching in the shrivelled canal and by careful bimanual examination that the actual conditions were detected.

The question of uterine tuberculosis is not exercised. Recurrent cases as have come under my observation seem to have come from other sites. Schroeder, in his polyclinic, found that among the poorer classes the proportion of carcinomata to myomata were as one to six. In his private practice, which was largely among the wealthier classes, it was as one to one. This suggests the probability that the life of modern society women with the accompanying sedentary habits and the unnatural sexual stimulation incident to such a life of mind

the pain extends down the thighs, involving either the anterior or the posterior surfaces of the limbs. The pressure upon the veins passing to the lower extremities may produce varicosis, followed by embolism of the lungs and heart. Pressure upon the ureters may produce hydronephrosis. Dysuria from pressure upon the bladder is not uncommon. All of the pressure symptoms are exaggerated during menstruation. The pressure symptoms are often much more marked when the tumor is confined to the pelvis. In one of my cases the tumor, somewhat larger than a fetal head, became suddenly incarcerated in the true pelvis after the patient had jumped from a chair. The resulting strangulation was so great that she was brought to me on a cot, and in operating from above it was with extreme difficulty that I was able to deliver the growth through the pelvic brim by means of a large sized cork screw.

The *leucorrhea* is due to exactly the same cause as the hemorrhage, namely, inflammation and thickening of the endometrium.

The *dysmenorrhea* results both from the mechanical pressure resulting from the tumor and from increased congestion arising from its presence. It is therefore more common in the submucous variety.

Sterility is present in about 30 per cent. of all cases of myoma occurring in married women. Should conception take place, the presence of the tumor not infrequently causes abortion; or there is a rapid increase in the growth of the tumor. I have recorded, at various times, some cases of my own, where the rapid growth of the tumor necessitated operative interference. No interference is demanded in 60 per cent. of the cases occurring during pregnancy.

Uterine fibromas, if uncomplicated, rarely cause death, although as we have seen serious degenerative changes are so common that with the modern technique it is safer in all instances where the growths are of any considerable size to remove them. Death, when it results, may be due to hemorrhage, to uremia from compression of the ureters, to septicemia from suppuration and disintegration of the tumor, to acute peritonitis, or to malignant degeneration. According to the statistics furnished by Winckel, death ensues after a longer or shorter duration of the disease in at least 10 per cent. of all cases. Noble

asserts that there is a prospective mortality of 30 per cent. in non-operated cases, which I believe is too high. A complication not infrequently met with is so-called brown atrophy of the heart.

TREATMENT.

In the way of palliation an effort should be made to control the hemorrhage and such uterine displacements as exist, and to relieve the pressure symptoms by instructing the patient to get into the knee chest posture several times during the day or by holding the uterus up with a properly fitted pessary. Where the patient declines to have surgical work done and the hemorrhage is marked, she should be placed in a recumbent posture and thoroughly tamponed. During the intermenstrual period she should abstain from any cause tending to produce pelvic congestion. Sexual excitement is for this reason pernicious, although normal sexual indulgence is probably beneficial where the desire is present. Constipation will likewise give rise to congestion of all the pelvic organs. Attention should also be paid to the functions of the liver and skin. As a more radical palliative procedure the thorough application of the curette, followed by iodin and uterine packing, will usually control the hemorrhage for a long time. Other palliative measures are salpingo-oophorectomy and ligation of the uterine arteries from below. These measures had their advantage when the mortality attending hysterectomy was more than 10 per cent. Now that this has been reduced, in the hands of experienced operators, to less than two per cent. there is no longer any excuse for resorting to either of the two first named procedures. In all instances in women who have not passed through the menopause, where one or both ovaries are healthy, they should be left behind, for the purpose of preventing the vasomotor disturbances incident to the forced change. It is surprising how entirely free from these disturbances the patient is when this can be done. The ovaries undoubtedly atrophy as time goes on, but the ovarian secretion is so gradually cut off that the vasomotor changes are barely perceptible. The sexual instinct is, too, better preserved by conserving the ovaries.

In all instances where the patient is so exsanguinated that her

hemoglobin is below 40 and her red blood count below 2,500,000, every effort should be made to place her in better physical condition before radical work is done. This is accomplished by placing her in bed, by doing a preliminary curettage, if necessary, by giving her tonics and the properly selected remedy, by nourishing food, tampons, etc. After the hemaglobin reaches 60 and the red blood cells 4,000,000, the operation can be done with comparative safety, providing other counterindications do not prevail.

Another palliative measure of very great value, according to the cases rapidly finding their way into the literature, is the use of the X-rays. It is said that because of the atrophy of the ovaries induced by the application of this agent hemorrhage is many times controlled and the growth of the tumor arrested. It is especially to be thought of where there is marked anemia with an incompetent heart, making a hysterectomy or a myomectomy unusually hazardous.

Myomectomy, either vaginal or abdominal, should be resorted to when there is a chance of saving the uterus, especially if the patient is anxious to bear children. As a matter of fact, not a very large per cent. of women who have had a myomectomy do conceive, but it should be the patient's privilege to take the chance if she so desires. There is a slightly greater risk in a myomectomy, particularly through the abdomen, than in a supravaginal hysterectomy. In all instances, in submucous tumors, when they can be gotten at from below, the operation should be done through the vagina.

I do not believe it is necessary where the tumor is small and accidentally discovered to do either a myomectomy or a hysterectomy, unless indeed the abdomen is opened for some other purpose. I am inclined to believe that the teaching of most gynecologists in this respect is too radical. Indeed, I think it unwise to inform the patient of the presence of a small tumor, say the size of a walnut, if she is suffering no inconvenience from the same. She should, of course, be kept under observation, and for the physician's own protection he should inform her husband or friends of the fact. Mental worry, as a factor in the production of disease, has hardly received the attention by the regular profession that it should, and it is certainly unnecessary to subject a nervous woman to the worry incident to the knowl-

edge of her having a fibroid when it is apparently harmless as a symptom producing factor.

I am not at all sure that internal medication is capable of arresting the growth of a small fibroid. What I do know is that a properly selected remedy will go a long way toward relieving the symptoms attending the formation of uterine myofibromata. For this reason I am incorporating the remedies which I have found most useful, together with their indications.

HOMŒOPATHIC THERAPEUTICS.

Calcarea Iodata.—Menses too early, too long and too profuse; acidity of the stomach; milky leucorrhea with itching and burning.

Iodide of Lime has for more than 20 years held the reputation of being useful in controlling the hemorrhage incident to uterine fibroids and a number of cases have been reported where the tumors have disappeared under its administration. In a paper published in the *Medical Era* of February, 1892, Dr. Alfred Beebe, of Chicago, said that he never failed to overcome the hemorrhage by this remedy and often accomplished a notable reduction in the size of the tumor. Southwick calls attention to the fact that the most celebrated mineral waters for the cure of fibroids contain a large amount of lime salts. In a case recorded by Dr. Sears (Journal British Homœopathic Society, Volume 2, page 94), a patient extremely anemic from the loss of blood was placed on her feet by giving teaspoonful doses of a solution of the strength of ten grains of the Iodide of Lime dissolved in a pint of water after every meal. Dr. Neatby (London Homœopathic Hospital Reports, 1894-1895) relates the history of thirty-four cases which had come under his notice up to that time and summed up the therapeutics by saying that "his sheet anchor for reducing both hemorrhage and the size of the tumor had become the Iodide of Lime." He used the American preparation, which contains ten and five-tenths per cent. of free Iodin, about one-fifth of a grain for a dose, four times a day. I am in the habit of using the remedy in the third decimal trituration.

Secale Cornutum.—Menses too profuse and last too long, with tearing and cutting colic; cold extremities; cold sweat; great

weakness and small pulse. Passive hemorrhage of fetid or dark blood; leucorrhea, brownish and offensive.

Ferrum.—Anemia from loss of blood; sticking, shooting pains in the uterus; menses too late, too long lasting and profuse; the flow is watery and is preceded by labor-like pains; hysterical symptoms after menses; alternate redness and paleness of face.

China.—Uterine hemorrhages of dark clotted blood with fainting and muscular twitchings; prostration from loss of blood.

Trillium.—Gushing of bright red blood from the uterus on the least movement; weak sight; anxious look; patient is pale and faints easily; flow returns every two weeks.

Thyroidin has proved beneficial in a certain per cent. of cases.

For additional remedies the reader is referred to therapeutics of Uterine Hemorrhage.

CONCLUSIONS.

1. Very small fibroids giving rise to no serious inconvenience, and discovered by accident, require no treatment. In the majority of instances it is best not to disturb the patient's mind by letting her know of the presence of a small tumor. A possible exception to this is when the growth is located in the cervix. During the child bearing period a tumor thus located should be removed.

2. On the other hand, in tumors of any size giving rise to either pressure symptoms or menorrhagia there is an element of danger in procrastination because of degeneration, which is greater than the removal of the growth by an experienced surgeon. It is therefore a great mistake to neglect these cases, if the symptoms are not relieved by palliative measures, until such an extreme degree of anemia develops as to add greatly to the danger of operative work.

3. The patient should, in fibroid tumors first discovered during pregnancy, be frequently and carefully examined by the attending physician. In reasonably small tumors the patient can usually go to her term of gestation without serious inconvenience. There is, however, an especial danger attending the complication of pregnancy by uterine myofibromas. If the growth increases rapidly in size, it should be removed, if the risk is not too great, by a myomectomy; or by a supervaginal amputation of the uterus if necessary.

CHAPTER VII.

GASTRIC(PEPTIC) AND DUODENAL ULCER.

This girl is 22 years old and her symptom complex is strongly suggestive of gastric ulcer. She is a serving maid and has been in ill health for more than eighteen months. Family history negative. Her initial symptoms as given by her were those of dyspepsia with eructations, anorexia, etc., although I more than mistrust that previous to the development of the stomach symptoms she suffered from anemia, if not from actual chlorosis. For the last two months she has complained of a more or less constant burning pain in the epigastrium which is most intense soon after the ingestion of food. The pain is also felt almost constantly in the back to the left of the spine and opposite the tenth dorsal vertebra. There is, during the attack, much heartburn with the gulping up of an excoriating acrid, bitter substance. At times the vomited matter has been brown or almost black, due to the admixture of blood. She is losing in flesh, her hemoglobin is low (70), her red blood count is but 3,500,000, there is a trace of albumin in the urine and there is indicanuria. The skin of the face and chest is, as you see, pigmented, and that covering the entire body is dry. Subjectively the prostration is marked, she complains of much thirst, though desiring water in small quantities only, and is exceedingly restless and nervous. Her general symptoms are all relieved by warmth. She fears that she is going to die and it is more and more difficult, so her mother informs me, to lift her from her state of mental depression. A peculiar symptom of her attacks of gastralgia is a pain felt in the neck and jaw not unlike the referred pain of angina pectoris. She has frequent attacks of diarrhea and upon two or three occasions there has been tarry blood in the stools. Microscopic examination shows sarcinæ. Three specimens of the stomach contents were obtained for laboratory exploitation. The first, eight hours after eating, showed the stomach empty, thus demonstrating with a fair degree of certainty that there is no serious hindrance to the onward passage of food; there was, however, some blood obtained, unmixed with food, indicating that it was

of gastric or duodenal origin. The second was obtained one hour after a test meal and showed a marked excess of HCl. The third, obtained after a fast of ten hours, also contained HCl. No yeast or sarcinae were found in the last specimen, showing that in all probability there is no food stasis. There is an absence of the Apper-Boas bacillus, as was to be expected in the presence of the excessive HCl secretion.

Physical examination shows tenderness over the left epigastrium with spastic contraction of the left rectus. There is an hyperalgesic area which extends from the lower area of the left chest downward as far as the umbilicus. You will note that the slightest skin pressure over this area causes the patient to flinch so that the sensitiveness is superficial and can by no manner of means be due to the communication of the pressure to the ulcerated area of the stomach, if ulcer there be. The patient's metabolism is involved as is manifest by her general appearance. Deep palpation of the appendix area fails to elicit any unusual tenderness. The pelvic organs are apparently normal, with nothing in the way of malposition to suggest reflex stomach disturbance. There is slight accentuation of the second heart sounds which can readily be accounted for by the existing anemia. The respiratory sounds are normal.

DIAGNOSIS.

Let us next proceed carefully to analyze the anamnesis obtained both for the purpose of arriving at a diagnosis if possible, as well as for the purpose of outlining an intelligent course of treatment.

If we are right in our surmise that the difficulty lies in the stomach, we are fortunate in having to deal with one of the most accessible of the internal organs, accessible alike to the chemist, the physiologist and the clinician. By means of the Roentgen rays it can even be made accessible to the eye without the aid of the surgeon's scalpel. Notwithstanding all this, mistakes in diagnosis are not infrequent and a positive conclusion cannot always, with entire safety, be formed.

First of all gastric and duodenal ulcer occurs in women oftener between the ages of 20 and 30 years than during any other period of life. It occurs, too, with greater frequency in serv-

ing maids and in those whose work involves pressure upon the epigastrium, so that in men weaving, cobbling and tailoring predispose to it. Impaired metabolism with resulting anemia and chlorosis are undoubtedly important factors in the production of stomach ulceration, as they are important predisposing factors in the creation of various other local and general affections. Usually associated with the malnutrition is autointoxication, which but adds to the tendency of local destruction of tissue. Hunter believes that gastric ulcers are not infrequently caused by emboli having their origin in endocarditis of the mitral valve. The heartburn in this case, as in most cases, is undoubtedly due to the hyperchlorhydria present with probable regurgitation of the vomited matter into the esophagus. The character of the vomited matter is not pathognomonic because we may have the brown or black vomitus in other conditions, and especially in carcinoma. However, when entering into the symptom complex of this case it is most significant, and as we shall see later is almost pathognomonic. The loss of flesh is not so marked as we would expect in malignancy. As a matter of fact, malignancy can with a fair degree of certainty be eliminated, as there are no evidences elicited by either palpation or percussion of a tumor formation and the degrees of emaciation and cachexia are hardly sufficient to suggest malignancy. Then, too, the analysis of the stomach contents, with the excess of HCl, and the absence of the Apper-Boas bacillus, counterindicate malignancy. While stomach cancers may occur at any period of life, they are more common between 40 and 70 years of age. Cancer, however, not infrequently follows in the train of gastric ulcer. The low per cent. of hemoglobin and the decreased number of red blood corpuscles are due to two causes, the loss of blood and malnutrition.

Differentiation.—There are other conditions simulating the gastric crises which this patient has from time to time experienced.

Spinal cord diseases, especially tabes, produce gastric crises, which on casual examination simulate organic stomach disease; but we have to help us in the differentiation the normal reflexes, the absence of shooting, lightning-like pains in the legs and of the Argyll-Robertson pupil.

In *chronic gastritis* we get persistent vomiting which is oc-

casionally blood stained, so that the symptoms of gastric ulcer may be counterfeited. But in simple gastritis the tenderness is more diffuse, the pain is not so severe, the vomiting is not so persistent or painful and there is diminished or absent HCl.

I have seen alarming and almost fatal hematemesis occur in *cirrhosis of the liver;* but in cirrhosis of the liver we usually have an alcoholic history with a hardened and palpable liver and not infrequently ascites, all of which are absent in this case.

The differentiation between duodenal and gastric ulcer is exceedingly difficult. Usually in duodenal ulcer the pain is in the right hypochondriac region and occurs two or three hours after meals. Sudden and recurring intestinal hemorrhage with pain in this locality, and with tarry or bright red stools, especially if associated with jaundice and with but little or no vomiting, suggests the duodenal location of the ulcer.

The slight trace of albumin in the urine with the absence of casts is not especially significant. On the other hand, the presence of indicanuria is significant inasmuch as it suggests autointoxication of gastro-intestinal origin. Baar contends that all anatomic lesions of the gastro-intestinal tract shows indicanuria, even simple lesions of the gastro-intestinal mucosa being sufficient for the absorption of the ever present indol. The pigmentation of the skin is also in all probability due to the resorption of toxins from the digestive canal and their retention. The thirst is probably due to the slight inflammatory condition associated with the formation of the ulcer, as well as to the loss of blood. The mental depression is characteristic of that of stomach and digestive disturbances, intensified in this case by the proving of *Ammonium Bromide.*

The pain felt in the neck and jaw are not unlike the pain often associated with *angina pectoris* and is probably due to the same cause, namely, stimulation through the vagus of the fifth cranial and upper nerve centers. Recorded in a homœopathic materia medica this symptom to some of you would look fantastic, but here we have it in an actual condition. It is a symptom occurring in the proving of *Ammonium Bromide.*

The spastic contraction of the left rectus muscle affords us but little definite knowledge as to the actual location of the ulcer

in the stomach for the reason that it is due, as emphasized by Mackenzie, to an irritability of a certain area in the spinal cord with an exaggerated peripheral response.

There is diarrhea, but no mucus in the stools, so that we are justified in eliminating *chronic appendicitis,* which is so frequently responsible for mucous enterocolitis. The abdominal tenderness being located above the umbilicus with no right hypogastric hyperalgesia also suggests the absence of appendicular involvement; but it must not be forgotten that gastralgia with almost typical symptoms of gastric ulcer may be caused by chronic appendicitis. Paterson, Fenwick, Moynihan, Ewald and Wood have all emphasized this fact. Paterson cites a number of cases in which it was exceedingly difficult to differentiate gastric symptoms due to appendicular disturbance from true gastric or duodenal ulcer. Five of his patients suffering only from appendicitis vomited blood on one or more occasions, the amount in one case being 50 ounces. Paterson's theory is that hemorrhage in these cases is due to the irritation resulting from the hyperacid gastric juice. The fact must not be overlooked that because of the hyperacidity produced by a diseased appendix, true ulcer may be excited.

Nor must we forget that symptoms simulating organic stomach disease may be produced in a reflex way by *displacement or disease within the female pelvis.* It is well known that lesions of whatever nature exciting or depressing the sympathetic nervous system may and frequently do interfere with digestion. The well known sickening sensation produced by ovarian pressure is a familiar example showing the intimate relationship existing between the female generative organs and the stomach. In short, the evidence going to show that digestion may be disturbed by pelvic lesions acting reflexly with consequent intestinal autointoxication is overwhelming. But pelvic lesions in the present case are absent and are likewise to be eliminated as causative factors.

The character of the pain does not always give us a clear idea of its cause. Mackenzie states that, although the stomach is a hollow muscular viscus, severe cramplike pain with violent peristalsis, having its origin in the stomach, is of rare occurrence.

He says that he has watched many patients for years who have suffered from these attacks and found that all turned out to be cases of *gall-stone disease,* so that in persistent dyspepsia and heartburn the question of gall-stone disease should be considered.

Again, the quantity of the blood vomited does not always give us a clear idea of the extent of the stomach involvement. Blood may come from the ordinary peptic ulcer or from a minute erosin barely recognizable even upon close scrutiny; or it may proceed from weeping patches and villous areas to be recognized only after the stomach is opened. In some instances hemorrhage may be the first symptom of destruction of tissue.

Undoubtedly some idea of the location of the ulcer can be formed by the time of the recurrence of pain after food is taken. Moynihan says that in his experience where exact observations have been made he has found a definite relationship between the time of the onset after a meal and the position of the ulcer in the stomach, the nearer the cardiac orifice of the stomach the earlier is the onset of the pain. In pyloric ulcer it usually does not occur for one or two hours after the ingestion of food—a keynote symptoms of *Anacardium.* This is due, as Birmingham has shown, to the fact that "the stomach is not an empty sac to the bottom of which fluid falls, but a contractile muscular organ that fills in the cardiac end first, and little by little passes the food onward through the pyloric antrum and pylorus into the duodenum." If the pain is relieved for a time by eating, it suggests a pyloric or duodenal ulcer, for after the ingestion of food the pyloric antrum and pylorus are closed and the ulcer therein is free from irritating contact with passing food. Another explanation for the relief afforded in these cases by eating is that the presence of food in the stomach excites the flow of bile into the duodenum, which neutralizes the hyperacidity present.

Conclusions.—I think then that we are justified both by the patient's objective and subjective symptoms—her age, her history, the location and character of the pain, the analyses of the stomach contents, and the absence of other lesions which sometimes simulate gastric ulcer—in making a diagnosis of gastric ulcer. The next and, so far as the patient is concerned, most important step, is the treatment.

TREATMENT.

Gastric ulcer, in my opinion, is a "border-land disease," essentially medical at its beginning, unless urgent symptoms in the way of pain, hemorrhage or the signs of portending perforation prevail. I am thoroughly in harmony with the teachings of Bartlett and most internists regarding this point. I am, however, equally emphatic in stating that unless the case in due time improves under properly regulated medical treatment, or if there be frequent recurrence of the hemorrhage, the condition transcends the domain of the internist and overlaps that of the surgeon. I cannot, however, quite agree with Bartlett in his statement that a cure will probably result in 95 per cent. of the cases treated medically.

Bartlett asks the following pertinent questions: 1. Do any of the cases relapse? 2. Do secondary lesions follow cicatrization? He answers these questions by stating that "undoubtedly many cases do relapse and all recoveries are not complete, for some are only relative." Moreover he adds: "Unfortunately secondary lesions following cicatrizations are by no means uncommon; nevertheless it is our duty to give our patient the benefit of the chances from medical treatment." Of first importance he emphasizes *rest,* which must be absolute in character. Secondly, the relief of the stomach for at least six or seven days from all work and the substitution of rectal alimentation. At the end of this time small quantities of milk are administered every hour, gradually increasing the amount, supplementing this by rectal feeding, until the end of the second week, when the patient is permitted broths and bouillon in addition to the milk, and the intervals of feeding considerably reduced. Moynihan advises that all ingesta be made sterile before being taken into the stomach and is a thorough believer in the disinfection of the mouth by means of frequent antiseptic washes. The importance of this procedure is emphasized by the more recent experiments of Rosenow who has many times produced ulcer of the stomach by intravenous injections of streptococci. It may be necessary to relieve the hyperchlorhydria with bicarbonate of soda or milk of magnesia. The pain may be so great even under complete rest that narcotics become necessary. Under certain circumstances, as in dilatation as-

sociated with the ulcerative process, the use of the stomach tube may be advantageous.

The specific treatment is, according to my way of thinking, most important. Analyzing this patient's symptoms from the viewpoint of treatment in order to determine the indicated remedy, we note first of all that she has "heartburn," (which we have seen is due to the hyperchlorhydria) with eructations, anorexia and *severe burning pain* relieved by warmth. The pain extends from the stomach through to the back, which, as we have seen, is a referred pain, and is most important from a diagnostic standpoint. There is hyperalgesia over the stomach area. The vomited matter is brown and almost black which, as we have seen, is due to the admixture of blood. She suffers from eructations; there is anorexia with loss in flesh, the hemoglobin is low and there is marked anemia. There is albumin in the urine and indicanuria; the skin of the face and chest is pigmented, there is marked thirst, the patient is restless, exceedingly nervous and melancholic with fear of death. There is a peculiar pain felt in the neck and jaw, which is also a "referred" pain. She has had upon two or three occasions tarry blood in the stools.

With this symptom complex presenting, I am inclined to believe that at least 49 out of 50 physicians trained in the law of similars would prescribe as the internal remedy *Arsenicum*. The exhaustion, the weakness, the mental anguish and restlessness, the fear of death, the gastric irritability, the marked thirst with the desire for but little water at a time, the albumin in the urine, the relief of her symptoms from heat, the pigmentation of the skin, and the probable pathologic lesion present, all are symptoms to be found under the pathogenesy of *Arsenic* in all homœopathic materia medicas. But it is not necessary for me to confine myself to the exclusive literature of the homœopathic school in order to show that *Arsenic* will produce the vast majority of the recorded symptoms when given to persons in health or in doses sufficiently large to create symptoms. Let me first quote from Potter: In his work on *Therapeutics, Materia Medica and Pharmacy,* twelfth edition, 1913, under the caption of *Physiological Action,* he says: "In large doses *Arsenic* is a powerful irritant to the gastro-intestinal and bronchial mucous membranes. Toxic doses may produce either symptoms of gastro-

enteritis or those of a profoundly narcotic character. In the first and most usual form of acute *Arsenical* poisoning there is burning pain in the throat and stomach extending over the abdomen, vomiting, thirst, bloody stools, stranguary, suppressed, albuminous and bloody urine, rapid and feeble heart, great anxiety, cold breath and finally exhaustion and collapse. The autopsy shows erosions, ecchymoses and softening of the gastro-intestinal mucous membrane. * * * In several cases it has caused general brown pigmentation of the skin and may give rise to the same pigmentation of psoriasis patches."

Strangely enough under the caption of *Therapeutics* Potter says: "*Arsenic* is of special value in irritative dyspepsia, gastralgia, pyroses, gastric ulcer or cancer, and regurgitation of food without nausea." * * * Again, "anemia and chlorosis are remarkably benefited by it. * * * In chronic, scaly and papular skin disease, its value is very great. * * * Epithelioma may be retarded by small doses long continued, and it has certainly been useful in delaying the progress of other cancers, particularly scirrhus of the stomach and uterine carcinoma."

But for fear that you may surmise that Potter, because of his early training as a homœopathic physician, filched some of his knowledge of *Arsenic,* both as regards its physiological action and therapeutic application, from homœopathic sources, let me quote some excerpts from Bartholow's chapter on *Arsenic.* Bartholow says: "When *Arsenic* is taken internally in large doses, it causes a metallic taste, nausea and vomiting of glairy mucus, epigastric pain and soreness, diarrhea, tenesmus, and sometimes dysenteric stools. As regards the skin, it causes itching of the eyelids, urticaria, eczema, psoriasis, etc. * * * When *Arsenic* is swallowed in sufficient quantities to cause the symptoms of acute poisoning the phenomena produced are of two kinds, gastro-intestinal irritation and cerebral effects. * * * There is burning in the epigastrium and thence radiating over the abdomen; violent and uncontrollable vomiting; great dryness of the mouth and fauces; intense thirst; intestinal irritation; bloody and offensive stools; retracted abdomen, etc. After death there will be found in the gastro-intestinal mucous membrane deep redness, erosions, ecchymoses and softening."

Under the head of *Therapy* Bartholow further says: "There is no remedy more useful than *Arsenic* in the so-called 'irritative dyspepsia' manifested by these symptoms: a red-pointed tongue, poor appetite, distress after meals, the presence of food causing intestinal pain, colic and the desire to go to stool. Drop doses of Fowler's solution given before meals quickly relieves this state of things. * * * *Arsenic* is also very beneficial in these cases in small doses in chronic ulcer of the stomach. It checks the vomiting, relieves the pain and improves the appetite for food. It is not equally effective in acute ulcer. Although *Arsenic* exercises but little influence over the progress of these cases, it is very serviceable in cancer of the stomach, by diminishing the pain and checking the vomiting. Gastralgia and enteralgia, when idiopathic, are sometimes made to disappear in a very surprising manner by the same remedy, *but there are no certain indications of the kind of case to which it is best adapted. In the treatment of stomach disorders only small doses of Arsenic are admissible. Large doses by creating an irritation of the gastric mucous membrane will only defeat the end in view.*"

And so, gentlemen, I feel that I am able to prove to you the homœopathicity of *Arsenic* in the disease under consideration, not only by Hahnemann's Materia Medica Pura, the first volume of which was published in 1811, but by the quotations extracted from recognized authorities of the older school—Potter and Bartholow. For further evidence obtainable from the older school I refer you to the more recent works of Bastedo, Thornton, Stevens and White, as well as to the older ones of Ringer and H. C. Wood. The peculiar modalities of *Arsenicum,* the aggravations after midnight and from cold drinks or food, and the amelioration from heat, were obtained only by the finer homœopathic provings and aid the homœopathic physician in its selection. Its recommendation by Potter and Bartholow are, as we have seen, in large measure empirical. I have selected it in the case under observation because in the provings of the drug we find that the majority of the symptoms present are produced by it when given to persons in health, in small or moderate sized doses, and in toxic doses actual ulceration of the stomach can be induced. I have already shown that at least one prominent reflex symptom, that of the throat and jaw, is counter-

feited in the provings of *Ammonium Bromatum,* but that is the only symptom present produced by *Ammonium Bromatum,* and therefore in the selection of the remedy I have eliminated it. *Sabadilla* has a pain extending from the stomach to the back, but this is the only *Sabadilla* symptom present and this drug is likewise eliminated.

Other remedies equally useful in gastric ulcer when indicated are *Argentum Nitricum, Phosphorus, Mercurius Corrosivus, Kali Bichromicum* and *Hydrastis.* The standard works on materia medica and therapeutics of the regular school show that all of these remedies not infrequently produce, in physiological and toxicological doses, symptoms resembling ulcer, and all of them are recommended in small doses for the same, though without the clear cut indications to be found in the writings of the homœopathic school.

I shall therefore place our patient under complete rest. I shall carefully regulate her diet. I shall for a time resort to rectal alimentation, and I shall prescribe *Arsenicum Album* 3x (1-1000) internally every four hours. Should the specific remedy fail to relieve the pain, I shall not hesitate to resort to anodynes; or should it fail to relieve the hyperchlorhydria, I shall not hesitate to prescribe alkalies, for homœopathy in its philosophy is inclusive and not exclusive. Homœopathy is usually able, however, to make these measures unnecessary by the properly selected internal remedy. In the meantime I shall keep the patient under close observation and should urgent symptoms develop, I shall not hesitate speedily to open the abdomen and do a gastroenterostomy or resect the ulcer.

CHAPTER VIII.

GASTRO-INTESTINAL AUTO-INTOXICATION AND MUCOUS-ENTEROCOLITIS WITH ILLUSTRATIVE CASES.

CASE I.—Patient, æt. 32; one child five years old. Married six years; never pregnant before or after the birth of this child. Labor exceedingly hard, and did not get up well from confinement. Has had at variable intervals attacks of menorrhagia. A great deal of pain in the region of both ovaries; severe, sharp, shooting pain through the abdomen over the appendix with intermittent attacks of appendicitis. She has been constipated since girlhood and there is much mucus in the stools. Cold hands and cold feet. Is an exceedingly anemic, nervous, little woman, very apprehensive; dyspareunia most distressing.

Physical examination shows the uterus enlarged, and when she first came to me, three years ago, I suspected ectopic pregnancy. The cervix is torn on either side well into the bases of the broad ligaments, and there is left behind a large amount of cicatricial tissue. There is a band of inflammatory tissue stretched across the right lateral cul-de-sac. Pelvic floor badly relaxed. Clitoris completely concealed by adhesions. Appendix distinctly palpable. The patient is, as you see, very thin and emaciated. Ovaries both distinctly adherent in the cul-de-sac of Douglas. The urine, except for the fact that it contains a very marked trace of indican, is normal. Patient has been under my care for three years with nothing more than temporary relief.

OPERATION.—I shall proceed to take care of the lesions present. I shall first divulse the uterus, apply the curette, following this with an application of iodin. I shall do a trachelorrhaphy, removing, as you see, a very large amount of cicatricial tissue, and a perineorrhaphy by the flap splitting method. I shall overcome the adhesions of the clitoris for the reason that I am working to relieve this patient of all possible terminal nerve impingement. I shall dilate the rectum most thoroughly, hoping thereby to overcome the constipation. I shall next proceed to open the abdomen, digging the ovaries and tubes from their inflammatory

bed. The adhesions are especially bad on the right side. The left ovary is a mere shell and rather smaller than it should be. Both tubes distended with pus. I shall, therefore, remove the left ovary and tube and also the right tube. I deem it best to take a chance on leaving the right ovary behind because of her extremely neurotic condition. I shall, therefore, hold it up out of harm's way by shortening the utero-ovarian ligament. I shall next suspend the uterus by the Kelly method. I shall finally explore the appendix, which is long and thickened and congested and, therefore, shall remove it.

CASE 2.—Mr. ———, æt. 23. Probable tuberculosis on mother's side; otherwise family history negative. Usual children's diseases. Even as a small boy remembers having had a great deal of distress in the stomach with colic. Neisser infection of left knee six years ago with resulting ankylosis. Has been worse since this attack, although indigestion and malnutrition date back long before it occurred. Very marked mucous-enterocolitis. Constipation of a most obstinate type; strong fecal breath; very bad phimosis and varicocele of left side. Patient has become a chronic neurasthenic with constant indigestion, pain in bowels, dragging sensation, hypochondria, emaciation, etc. X-ray examination shows marked dilatation or thickening in the region of the duodenum with the stomach very much dilated and the stomach and transverse colon prolapsed into the pelvis.

I shall make a long median incision extending from the ensiform cartilage down to the umbilicus. The stomach is, as you see, very much dilated with also a marked dilatation of the duodenum immediately below the stomach. I shall do a posterior gastro-enterostomy followed by stitching the edges of the opening in the mesocolon to the stomach wall for the purpose of making this one point of fixation. I shall next shorten the gastrohepatic omentum by the Bayea method, one of the stitches catching the stomach wall below the coronary artery. In order to make the fixation doubly secure I shall carry a silk wormgut suture through the entire abdominal wall and pass this transversely through the stomach—the Rovsing method. I shall next close the peritoneum with a No. 2 catgut suture and shall catch the stomach at one point with this suture. I shall close the abdomen

and reopen it again in the right semilunar space, removing a very long, thickened, kinked appendix. After closing this wound I shall proceed quickly to perform a circumcision. I shall not venture to do more work than this at one sitting. I believe that in time the varicocele, after the patient's general health improves, will take care of itself.

Remarks.—The pages of the current medical literature afford abundant evidence of the interest now being taken in the various phases of autointoxication. It is a subject which has long interested me, and I am of the opinion that its surgical aspect, especially the surgical aspect of the gastro-intestinal form, has not received by the general profession the attention it deserves.

The profession is enormously indebted to the bacteriologists who have worked out, or are working out, the flora of the gastro-intestinal canal. Our theory of the significance of the part played by the secretions pouring into this canal, from the cardinac orifice of the stomach to the anus, and of the part played by the phagocytes in contending against disease producing micro-organisms, which invade the system through the intestinal walls, is being rapidly recast. We know that millions of such organisms are to be found at all times in the gastrointestinal canal; we are, unfortunately, not so sure of our premises when we come to deal with the significance of the several varieties there found, and with the best method of removing the conditions and lesions responsible for their activity. I shall endeavor to show that there are certain surgical and reflex causes which have been too long ignored.

In June, 1900 (*Medical Visitor*), I published an article, entitled *Appendicitis Associated with Diseased Conditions of the Female Generative Organs,* in which I tabulated fifty cases of appendicitis associated with more or less profound lesions of the uterine adnexa. I then analyzed the subjective and objective symptoms present in that series and found that digestive disturbance characterized about 75 per cent. of the chronic cases therein reported. There was in the cases so characterized emaciation varying from slight to extreme, indigestion with gaseous distention of both the stomach and bowels, coated tongue with foul breath, obstinate constipation, or alternate constipation and diarrhea, with varying

amounts of mucus in the stools, indicating chronic mucous enterocolitis—a clinical picture duplicated by all writers in describing gastro-intestinal autointoxication. It was, of course, in this series difficult to determine whether or not the gastrointestinal symptoms described were due to the appendicular or the ovarian lesions, or both combined, the cases all being women. Previous as well as subsequent observation has, however, firmly convinced me that chronic catarrhal appendicitis does produce, and not infrequently, the same disturbance in the male. In another article, entitled *The Surgical Aspect of Indigestion and So-called Gastralgia* (*Medical and Surgical Reporter,* April, 1904), I enumerated the surgical lesions responsible for indigestion and stomach disturbance and discussed in detail those which not infrequently give rise to both indigestion and gastric crises. Such lesions are gastric ulcers, gastric dilatation and enterotosis, pyloric strictures, gall-bladder lesions, movable or floating kidney, chronic appendicitis, intestinal strictures and adhesions, and diseases of the uterus and its adnexa. Those especially interested in this subject are referred to the articles mentioned. In the September, 1910, number of *Surgery, Gynecology and Obstetrics,* under the caption of "Gastrointestinal Autointoxication and Mucous Enterocolitis From the Viewpoint of Surgery," I have an extended article dealing with the subject in hand.

So far as I am able to determine my article of June, 1900, was the first published emphasizing the significance of lesions of the pelvic organs and appendix in the production of mucous enterocolitis. There is at the present time comparatively little said upon the subject by those dealing with internal medicine. On the other hand, the surgeons and gynecologists, observing that gastrointestinal disturbances disappear in a large per cent of cases after correcting certain surgical lesions, are coming to recognize that even slight changes in the appendix may perpetuate the gastrointestinal irritation, which in turn gives rise to the symptoms of intestinal autointoxication with mucous discharges.

GASTRO-INTESTINAL AUTO-INTOXICATION.

In order to show the diverse opinions which prevail at the present time regarding the etiology, pathology and symptomatol-

ogy of this condition, I quoted freely, in the last article referred to, from the Writings of Alexander, Hill, Blum, Mulot, Kaufman, Forcheimer, Von Norden, Kelly and many others.

Alexander recognizes the relationship of gynecology to autointoxication and gives three general types: 1. Those in which pelvic conditions are produced by autointoxication. 2. Those in which pelvic conditions produce autointoxication. 3. Those in which autointoxication is at once the product of the pelvic states and aggravates these.

In the first type autointoxication may give rise to amenorrhea, dysmenorrhea, menorrhagia, leucorrhea, etc. The second type includes the cases of uterine malposition and tumors, which, by interfering with the function of the bowel and acting in a reflex way so as to disturb digestion, give rise to autointoxication. In the third type he says that "uterine malposition and tumors by their effect on the general tone increase nervous waste, and decrease elimination. To these last effects are due their alleged reflex action."

According to Blum, "the thyroid seizes and destroys enterotoxins developed by the action of bacteria in the intestinal canal. When the thyroid is absent or diseased, these toxins produce changes resembling myxedema, as edema, debility, stunted growth, and dulled mentality (cretinism), tetany and subnormal temperature." Exophthalmic goitre may thus have its genesis in parathyroid insufficiency.

Under the head of etiologic factors Anders says: "I would assign conspicuous positions to the following in the order given: First, impaired metabolic processes; second, errors in diet or the ingestion of too large quantities of proteids, and, although less commonly, fats and sugar; third, constipation; fourth, intestinal pathologic states, as chronic appendicitis, mucous colitis and gastroptosis with or without coloptosis."

Forcheimer gives a composite picture of 77 cases of chronic intestinal autointoxication as follows:

"1. Riggs' disease was present in 85 per cent. of all the cases, 70 per cent. had some form of stomach trouble, 94 per cent. had some manifestation of bowel trouble.

"2. The urine was found to contain indican in abnormal quan-

tities in 87 per cent. of all the cases; calcium oxalate in 50 per cent., uric acid in 25 per cent., red blood corpuscles in 50 per cent., cylindroids were found in about 17 per cent., casts in 32 per cent., albumen in 9 per cent.

"3. In women nearly one-half were affected by some form of abnormal menstruation.

"4. Nervous symptoms were present in about 80 per cent. of all the cases.

"5. Cardiovascular conditions were found in 74 per cent.—neuroses, myocarditis, arteriosclerosis, etc.

"6. Locomotor apparatus symptoms occurred in 62 per cent.—so-called gouty joints, hypertrophic arthritis, and especially muscular symptoms.

"7. Skin lesions were found in 28 per cent."

Forcheimer emphasizes the importance of derangement of the stomach, which in turn gives rise to bowel trouble and consequent autointoxication. Diminution of HCL, and motor insufficiency of the stomach with stagnating food, favors the growth of bacteria. Constipation by producing retention of fecal matter favors autointoxication, as is well known. In the treatment, all those conditions which prevent normal peristalsis should be looked for and carefully treated. Such conditions are chronic enteritis, peritonitis, obstructive conditions from within or without the intestines, and chronic appendicitis. In the 77 cases referred to, ten had appendicitis; five were operated on and with the removal of the appendix the autointoxication disappeared. Albumen and nuclein foods should be, according to Forcheimer, avoided as much as possible. Albumen, except that from milk and vegetables, and possibly eggs, because it is affected by the causes of intestinal putridity; and nuclean, as the alloxuric bodies, including uric acid, are formed from it.

Carl von Noorden, in his classic essay on *Acid Autointoxications* (*Diseases of Metabolism and Nutrition*) makes the following observations: "The alkalinity of the blood depends upon several compounds. First, compounds with an alkaline reaction (sodium carbonate and sodium phosphate), and second, large quantities of alkali combined with mineral acids. Herbivorous animals quickly die under the administration of acids. The acid

is neutralized in carvinorous animals because of the ammonia manufactured by the proteids. Excessive accumulation of acids in the system occurs in two ways: (a) The excretion may be reduced. (b) The formation may be increased. From the first the danger is slight. The acids that are responsible are known as 'acetone bodies.'" The presence of acetone in the urine, according to von Noorden, has been credited with too much importance. The alkalinity of the blood is always greatly reduced in diabetic coma. Lessened carbohydrate feeding causes acetonuria. Acetone bodies are probably an intermediate product of normal metabolism.

Chapman emphasizes the well known fact that a disease may both cause autointoxication and be caused by it. Thus, he says, "nephritis may be caused by endogenous as well as exogenous poisons circulating in the blood stream and with this nephritis comes decreased functional power and failure of elimination proportional to such loss. Similarly do conditions like gastric dilatation and cirrhosis of the liver act in the production of autointoxication. While admitting that autointoxication may give rise to epileptic forms of convulsions, it is necessary in order that the epilepsy continue in regularly repeated attacks that there be a predisposing cause set into operation by a toxic acid. Other conditions which may be caused by autointoxication, according to Chapman, are tumors, infantile convulsions, gastric tetany, skin diseases of various kinds, depressed states, insomnia and insanity.

I have in the chapter devoted to peptic ulcer quoted from Paterson, the Mayos and Fenwick in order to show the relationship in a causative way existing between stomach and duodenal ulcers and chronic appendicitis.

MUCOUS-ENTEROCOLITIS.

This disease or symptom is known also as colica mucosa, colitis, pseudo membranacea, membranous catarrh of the intestine and myxoneurosis coli; terms which at once suggest the prevailing confusion regarding its causation, nature and significance. Until comparatively recently the internists have declined to consider the possibility that in at least a given per cent. of the cases characterized by the free discharge of mucus per anum the cause may

be local rather than systemic. Indeed it is only in the later surgical writings that one finds mentioned, and merely mentioned, mucous enterocolitis as a symptom of chronic appendicitis.

Lesions of the uterus and its adnexa, except as they may interfere with peristalsis in a mechanical way, are practically ignored as factors in disturbing digestion and thereby exciting and perpetuating the abnormal discharge of mucus. Von Noorden takes issue with the views expressed in more recent publications on colica mucosa in that they concede the role of inflammatory processes in the genesis of the majority, if not all, the cases of this affection. He, however, admits that there are a number of very valuable post-mortem reports on record that demonstrate positively that a disease picture corresponding to colica mucosa may actually be observed in cases of genuine enteritis, though Hemmeter subjected certain portions of the colon that were covered with a thick layer of mucus to careful macroscopic and microscopic examination, and failed to find any histologic evidence of inflammation. This view is also held by Rothmann. Nothnagel, on the other hand, recognizing the duplex character of colica mucosa, believes that there are two forms of the disease, the one with, and the other without, inflammatory phenomena. He, therefore, separates the two forms and calls them by different names; thus he speaks of "enteritis membranacea" and of "colica mucosa." The latter form he believes to be always of neurotic origin.

Kelly, on the other hand, gives as prominent symptoms of chronic appendicitis obstinate constipation, dyspepsia, especially after indulging in certain articles of food, and flatulency, which is not infrequently confined to the ileo-cecal region. Kelly agrees with Czerny that the flatulency is probably due to a condition of stasis, owing to the presence of adhesions which inhibit to some extent the normal muscular contractions. Other symptoms, according to Kelly, of the disturbed digestion are a furred tongue with nausea and diarrhœa, which at times alternates with constipation, or may be a constant symptom. Pain and tenderness are usually present in the right abdomen, although he emphasizes the fact that there is scarcely a spot in the whole abdomen to which the pain may not be referred. Kelly says: *"the association of*

colitis and chronic appendicitis is frequently observed." Finney has especially noted its occurrence "in cases where there is a thickened chronically inflamed appendix, densely adherent to neighboring intestines." "Some writers," continues Kelly, "have attributed the disease of the appendix to the influence of the chronic colitis, but the evidence as a whole is in favor of the appendiceal origin of the trouble, the affection of the colon being secondary. In many instances attacks of appendicitis have antedated the appearance of the symptoms of colitis, and it is a common experience to find that the latter is entirely relieved by the removal of the appendix." At a later period Kelly wrote: "Chronic appendicitis usually manifests itself by the presence of abdominal pain, generally located in the right side and often associated with digestive disturbances, especially constipation and flatulency. The somewhat frequent association of mucous colitis with chronic appendicitis, and the relief obtained in some cases after the removal of the appendix, suggests the existence of an etiologic relationship between the two affections."

Kemp gives as an etiologic factor of mucous enterocolitis pressure from tumors which narrow the canal, giving rise to fecal accumulation. He differentiates intestinal dyspepsia from chronic mucous enteritis from the fact that in the latter condition there will always be found mucus with epithelial and round cells, while the stools are alkaline and of strong fecal odor, whereas in the former the stool consists of pure mucus alone.

Lane's bands, by interfering with intestinal peristalsis, frequently give rise to both gastro-intestinal autointoxication and mucous enterocolitis.

On one point nearly all writers are agreed, namely, that many cases of arteriosclerosis are directly traceable to autointoxication, no matter what may be the predisposing and exciting causes of the latter condition. It would be interesting to go into this phase of the subject in detail, but space forbids. Suffice it to say that in dealing with long existing autointoxication one should always note the blood pressure and examine carefully for other evidences of arterial degeneration, directing the treatment, when it is present, accordingly.

PATHOLOGY.

In a large per cent. of appendices chronically affected the organ will be found thickened. This is due to strictures, which are usually present, with more or less distention, which excites tenesmus and muscular hypertrophy; or it may be due to inflammatory infiltration. In either event the mucous membrane at the point of stricture becomes eroded and the stricture in time becomes absolute or nearly so. I have placed on record (*American Journal of Obstetrics,* January, 1900) a somewhat remarkable case of cystic distention of the appendix. My observation, however, leads me to believe that the marked cases of cystic distention entirely shut off from the bowel do not give rise to as great a degree of bowel irritation as do the minor forms of inflammation which still communicate with the bowel. Progressive obliteration of the lumen of the appendix is not infrequently found, a condition which was, I believe, first described by Senn, who gave to it the name of "appendicitis obliterans." Zuckland found the lumen obliterated in 55 out of 232 cases.

Kelly, under the head of "residual appendicitis," shows several cases illustrating the many deformities which may follow in the train of acute or chronic inflammation of the organ.

In most instances, upon section, there will be found a general infiltration of lymphoid and plasma cells, collected usually in clumps and along the course of the vessels.

TREATMENT.

The treatment of *autointoxication and mucous-enterocolitis,* if the foregoing premises are in harmony with the facts, logically resolves itself into (a) dietetic, (b) therapeutic, and (c) surgical.

In the selection of a diet Alexander emphasizes the necessity of reducing the energy foods, which tend to cause intestinal disturbance, thus relieving the strain through fecal absorption upon the kidneys, liver, and lungs. He also advises the reduction of starches, like potatoes, bananas, old cabbage, turnips, parsnips, etc., in all persons whose labor is not manual.

According to Bignault and Suckdorf the body each day expels through the dejecta from fifty to eighty billion microbes, there having already been differentiated some 44 varieties. There seems to be no question but that our vegetarian friends

are right in claiming that a much larger number will be found when meat is consumed than when the diet is exclusively vegetable. Nearly four hundred million aerobic germs per gram of moist material were found in round steak taken from the table of a prominent city hotel. In many instances, especially where there is arterial sclerosis, an exclusive vegetable diet is advantageous.

Large quantities of water are beneficial in flushing the kidneys and stimulating the hepatic and intestinal secretions. At least three quarts should be taken during the 24 hours. Constipation is not infrequently cured by the consumption of large quantities of water. Where constipation is present the bowels should be kept open, preferably by means of enemata of normal salt solution administered in the knee-chest position. The too persistent use of cathartics in treating constipation is to be deprecated. Fruits, especially the acid varieties, are nearly always helpful. Exercise and plenty of fresh air are of the utmost importance.

Le Sage, in 1888, first promulgated the idea of employing the result of bacterial activity to counteract putridity in the intestine (Forcheimer). Later, Pasteur made an attempt to destroy bacteria by the activity of others which are antagonistic to them. It was, however, left to Metchnikoff to desert the phagocyte and proclaim that premature senility is due to the remnants of digestion in the colon which are exposed to putrefactive bacteria, the results of which are absorbed. Metchnikoff recommends, in order to prevent such putrefaction, the ingestion of lactic acid-forming bacteria in milk, choosing the b. bulgaricus. In order to improve the taste of the preparation he combines this with the streptococcus lacticus. This preparation is now put on the market in the form of tablets, which consist of b. bulgaricus, streptococcus lacticus, and a yeast. The laity and, I fear, the profession as well, are now working the buttermilk treatment of intestinal autointoxication for more than it is worth.

Forcheimer thinks that in women the ovarian internal secretion, or the lack of it, does not a little to cause symptomatic discomfort. He has benefited cases thus affected by the administration of the ovarian extract.

In the medical treatment of *mucous enterocolitis* von Noorden

places especial emphasis upon rest in bed, hot applications, the use of narcotics, water enemata, high oil clysmas and, contrary to all previous teachings, a coarse laxative diet. The reader is referred to von Noorden's brochure, *Disorders of Metabolism and Nutrition,* for the details of this diet. He emphasizes, too, the importance of massage of the large intestine, and of securing a normal action of the bowels.

Kemp enumerates the mechanical causes of enterocolitis and insists that, if there is enteroptosis, this condition should be surgically overcome, as was done in Case II. this morning. Kemp advises the administration of olive oil per rectum in quantities varying from one pint to one quart.

Mendez treats enterocolitis by giving large doses of bismuth for the purpose of mechanically protecting the mucous membrane.

Wallis considers appendicostomy a most satisfactory method of treating obstinate cases of mucous enterocolitis.

Admitting that chronic mucous enterocolitis is not infrequently associated with a true inflammatory process, it is not difficult to understand how it may have its origin in, and be perpetuated by, a chronically inflamed appendix. With such an appendix there exists constantly in the region of the cecum an infecting focus which may, at any time, implicate the immediate vicinity of the appendix, thereby giving rise to more or less acute inflammatory attacks. The inflammation thus excited may extend by continuity of tissue over large areas of the bowel mucosa; or the pathogenic organisms located in or about the appendix may find their way upward or downward, exciting by their presence enteritis. Nor does it seem unreasonable, in the absence of a more plausible theory, that mucous enterocolitis from whatever cause may, because of the abnormal secretion which suggests its name, afford a culture medium which in turn, because of the resulting fermentation, gives rise to intestinal autointoxication. This theory is in harmony with the fact that both mucous enterocolitis and intestinal autointoxication usually disappear when the inflamed and irritated appendix is removed, providing, of course, there are not left behind other lesions which are, in a measure, responsible for the existing symptoms. Neither is it difficult to understand the causal re-

lationship existing between gross lesions of the stomach and intestines (dilatation, displacements, etc.), and of the female pelvic organs, and intestinal autointoxication. It is not, on the other hand, so easy to trace such relationship when we have to do with the minor lesions within the female pelvis which do not interfere with bowel peristalsis by direct pressure. We must, in order to do so, revert to our physiology, and to the overwhelming clinical evidence now in our possession. (v. Chapter IX., p. 122.)

A careful inquiry into the history of cases such as we have this morning operated leads the examiner to suspect that many times the disturbing lesions, especially those of the appendix, date back to early childhood. At least, the victims say that as children they were not strong and suffered from indigestion and indefinite abdominal pains. As time goes on they become phlegmatic, anemic, and flabby fibred, with cold hands and cold feet, suggesting an impoverished blood supply. Toxic neuritides, especially involving the region of the trigeminal nerve, are often most distressing. The hemaglobin is low and the red cells are usually below 4,000,000. As a rule, they are constipated, or there is alternate constipation and diarrhea with mucous stools, and not infrequently there are hemorrhoids or other rectal lesions. In perhaps 20 per cent. of the cases the thyroid is more or less enlarged, and there may be symptoms of incipient Graves' disease. The mentality is frequently below par and usually the victims are melancholic or exceedingly neurotic. The proposition that all children should have their appendices removed as a prophylactic measure is of course absurd, but I sometimes wonder whether, in these days of municipal paternalism, we are not, in our enthusiasm in looking after the eyes, teeth and throats of backward children, derelict in ignoring the part played by chronic appendicitis, and in girls, diseased or displaced reproductive organs, in interfering with the metabolism of the growing child, thus retarding both its physical and mental development.

HOMŒOPATHIC THERAPEUTICS.

It is entirely possible that a remedy might be called for in the treatment of gastro-intestinal autointoxication and mucous en-

terocolitis which does not present in its pathogenesy the symptom of "mucous discharge from the bowels." It is more than probable, however, that in the larger number of instances such a discharge will be found under the remedy based upon the "totality of symptoms." Stools that are "mucous and slimy" are found, according to our repertories, under more than forty different remedies. Those especially characterized by a discharge of mucus from the bowel, and therefore oftener indicated, are *Aloes, Argentum Nitricum, Arsenicum, Colchicum, Colocynthis, Ipecac, Magnesia Phosphorica, Mercurius Corrosivus, Kali Muriaticum* and *Kali Bichromicum.*

Aloes.—*Aloes* is especially useful where there is marked portal congestion in the aged and phlegmatic. There is a constant bearing-down in the rectum and not infrequently there is hemorrhage with a sore, hot sensation; much mucus with pain in the rectum after stool; burning in the anus and rectum. There are hemorrhoids which protrude like grapes, which are sore and tender and are relieved by the application of cold water. My favorite potency is the third decimal. Potter says: "As a cathartic aloes acts chiefly on the lower half of the large intestine producing copious soft evacuations with some griping pains. * * * It must be avoided in irritable rectum, hemorrhoids or in an active form of menorrhagia or in pregnancy, unless given in small doses and with care."

Argentum Nitricum.—Especially useful where the neurotic element preponderates. Nitrate of Silver produces, in large doses, violent inflammation of the throat, and gastro-intestinal canal; much flatulency giving rise to belching with, not infrequently, nausea, retching and vomiting of glairy mucus; great craving for sweets; ulceration of the stomach with radiating pains. Diarrhea is more apt to be present than constipation, but the two may alternate. The stool is green, like chopped spinach, with shreddy mucus; enormous distention of the abdomen; stool very offensive. Potter says: "*Argentum nitricum* in large doses produces violent gastro-enteritis, erosions and ulceration of the gastro-intestinal mucous membrane. * * * The nitrate has often proved of value in chronic inflammation of the large and small intestine, especially where there is ulceration of the

mucous membrane. It has done good service as an intercurrent remedy in acute dysenteries and in chronic dysenteries. A solution of 20 to 30 grains to the pint of distilled water as an injection into the colon has given satisfactory results in many cases and is considered one of the most valuable methods for the treatment of that affection."

Where the inflamed or ulcerated area can be exposed by means of the proctoscope I have often obtained excellent results by spraying the diseased surface with a five per cent. Nitrate of Silver solution. Internally I am in the habit of prescribing the solution in the strength of two grains of the salt in six ounces of water, giving a teaspoonful of this from four to eight hours, as the symptoms may require. The solution should be protected from the light.

Arsenicum.—Especially useful where there is marked debility, associated with restlessness; aggravated at night; pains are burning in character; marked thirst for small quantities of water; burning pain and pressure in rectum and anus with tenesmus; offensive, dark stools with much prostration; skin excoriated about the anus.

Colchicum.—A prominent keynote symptom of this remedy is "the smell of food causes nausea even to fainting" with profuse salivary secretion; vomiting of mucus with gouty gastralgia. Painful, scanty, jelly-like mucous stools. Stools contain white stringy particles in large quantities.

Colocynth.—"Agonizing pain in abdomen causing the patient to bend double" is a keynote symptom of *Colocynth;* sensation of cutting, twisting, grinding in abdomen with contractions as if clamped with iron bands. Dysenteric stool renewed each time by the least food or drink; jelly-like stools.

Hughes, in his "Principles and Practice of Homœopathy," quoting Cocke, says: "In a case where the presence of false membrane was established by microscopic examination the patient was greatly relieved by *Colocynth* 2x, prescribed because of the severe attacks of colic. The patient was finally cured by *Mercurius Corrosivus* 3x and *Nux Vomica* 2x."

Potter says: "In moderate doses *Colocynth* increases peristalsis and the intestinal glandular secretions, producing watery evacuations with much colicky, griping pain. * * * There seems to

be abundant evidence that in very small doses (M. 1/20-1/16 tincture) *Colocynth* is an efficient remedy in colic, sciatica, ovarian and other neuralgiæ, as well as in the pain of glaucoma." The homeopathic prescriber knows only too well that aggravations are liable to follow even the small doses recommended by Potter. I rarely prescribe *Colocynth* lower than the sixth decimal dilution.

Ipecac.—Ipecac, in the form of emetine, has recently come into renewed prominence as a remedy for amebic dysentery, although it has long been a favorite remedy in its original form with all schools of medicine in the treatment of dysentery. There is marked gastric disturbance with nausea and, very frequently, vomiting; there is cutting, clutching pain in the abdomen, worse around the navel; slimy dysentery. In the acute form of bowel trouble the stools are pitch-like or green as grass with griping at navel.

Potter says: "*Ipecac* in doses of from five to twenty grains is nauseant and emetic. In from twenty minutes to half an hour, if these doses are repeated, a tolerance of the stomach to the drug becomes established and a cathartic action is produced, the stools having a bilious appearance. * * * In small doses, mj of the wine frequently repeated, it is an efficient antiemetic in vomiting of nervous origin, and especially in vomiting of pregnancy. * * * Chronic dysentery may be benefited by this treatment (20 to 60 grains every four hours) though some physicians prefer to use smaller doses for a prolonged time in this form of the affection."

The smaller doses used with so much benefit in dysentery by the homeopathic practitioners clearly indicate, I think, the specific action of this drug, unless in amebic dysentery.

Magnesia Phosphorica.—As an intercurrent remedy *Magnesia Phosphorica* will be especially useful for the flatulent colic relieved by rubbing, warmth and pressure, which so frequently attends mucous enterocolitis. There is a loaded, full sensation in the abdomen. The pains are always of a spasmodic character.

Mercurius Corrosivus.—Any of the mercuries may be called for in the treatment of this condition, the corrosivus being oftener useful than any other form. It is especially indicated where the lower bowel is affected, with tenesmus of the rectum which is incessant; the stool is hot, bloody, slimy, offensive, with cutting

pain; shreds of mucous membrane in stool; pain in the cecal region and transverse colon. Bruised sensation throughout abdomen. Particularly useful if there is a syphilitic history.

Potter says: "As Dr. Ringer said in the early edition of his 'Handbook of Therapeutics,' the phenomena produced by mercury is significantly similar to those which result from syphilis and the serious symptoms known as secondary and tertiary syphilis can be produced both by syphilis and by mercury. The drug is a specific antagonist to the syphilitic virus, probably by reason of its affecting the same organs and tissues of the body on a similar line of action, both poisons mutually destroying each other in the organism. * * * It (*Mercurius corrosivus*) affects specifically the lower abdomen (*Calomel* preferring the upper intestine), producing inflammation and ulceration of the rectum. * * * The dysentery of the adults with slimy and bloody stools is best treated by small doses, grains (1/100 of the bichlorid), and in the diarrhea and dysentery (ileo-colitis) of infants gray powder, gr. 1/5, or calomel, gr. 1/20, will be found effective." Personally, I use from the third to the sixth decimal trituration.

Kali Muriaticum.—Chlorid of Potassium obtained in the homœopathic school a widespread clinical use through the writings of Schuessler. Boericke says: "It certainly is of great value in catarrhal affections, in subacute inflammatory states, fibrous exudations and glandular swellings." It is capable of producing dysentery, with slimy stools and hemorrhoids.

More than a quarter of a century ago I had under observation with the late Dr. A. I. Sawyer, of Michigan, a case of mucous enterocolitis in a highly cultured woman of the neurasthenic type, in which both of us were deeply interested. The patient was passing through the menopause and had for more than two years been expelling enormous quantities of mucus at each bowel evacuation, the mucus expelled more resembling in macroscopic appearance a ball of "tape-worms" than anything else. The late Dr. Samuel A. Jones, of Ann Arbor, who was, during my student days, my professor of materia medica, was called in consultation. Schuessler's tissue remedies were, at that time, just beginning to receive attention. Dr. Jones advised Kali Muriaticum 3x, which was prescribed, two grains of the remedy

being given from four to eight times a day. Within two months the patient was completely cured of her mucous-enterocolitis, and in a very short time was restored to a comparative degree of health.

CONCLUSIONS.

1. The most diverse views prevail at the present time regarding the causation, pathology and treatment of gastro-intestinal autointoxication and so-called mucous-enterocolitis.

2. The association of the two conditions is frequently observed.

3. A most common symptom of chronic appendicitis is the discharge of mucus per anum because of the enteritis excited and perpetuated by an inflamed appendix.

4. There is increasing evidence going to show that a causal relationship exists between chronic appendicitis, with or without mucous enterocolitis, and gastro-intestinal autointoxication.

5. Lesions of the female reproductive organs may also, either by interfering with intestinal peristalsis through direct pressure or reflexly, so interfere with digestion as to cause gastro-intestinal autointoxication.

6. In dealing with the symptom-complex of gastro-intestinal autointoxication and mucous enterocolitis it is necessary in the majority of instances to have recourse to surgery before permanent relief is obtained. This statement presupposes that intelligent dietetic, hygienic and medicinal measures have been faithfully observed previously to operating.

7. Relief following surgical work, when indicated, is usually immediate. It may be necessary, however, to keep the patient, especially if neurotic, under observation and treatment for some months following such work.

CHAPTER IX.

EXOPHTHALMIC GOITRE.

The patient before you is a very much emaciated little woman, a music teacher, 30 years of age, with marked symptoms of exophthalmic goitre or Graves' disease. She has grown steadily worse for two years and for the last eight months has been practically incapacitated for work of any kind. Her pulse ranges from 120 to 140, her eyes are prominent, and Stellwag's sign is present (winking incomplete, tardy, irregular and spastic). The palpebral fissure is too wide (Dalrymple's sign). There is marked vasomotor disturbance, she has neurasthenia and insomnia, there is marked tremor and a very pronounced enlargement of the thyroid. There is bad indigestion, there is constipation, she has cold hands and cold feet, there is alternate paleness and redness of the face, there is troublesome perspiration, there is anemia, there is great sensitiveness to heat, her temperature ranges from 99° to 100.6° F., the electrical resistance of the skin is diminished, there is a slight trace of albumen in the urine, there is amenorrhea, the menses occurring only once every two or three months and being then exceedingly painful, and there is decided mental apathy with melancholia.

Physical examination shows that, notwithstanding the hymen is intact, the uterus is very low with the fundus directed posteriorly. The clitoris is completely adherent, the sphincter ani is tight, the appendix is distinctly palpable and both kidneys, because of the emaciation, can be palpated. I am inclined to believe that the ovaries are bound down in adhesions under the fundus. The right ovary is diseased and enlarged.

For reasons which I shall later elaborate I am going to ignore for the time being the thyroid entirely. I shall, because of the dysmenorrhea, divulse the uterus and apply iodin, leaving a pack in the uterine cavity. I shall overcome the adhesions of the clitoris. You will note that it is unnecessary to use the speculum in order to expose the uterus, the organ being so low that the cervix, were it not for the intact hymen, would project from the vagina. I shall dilate the rectum most thoroughly and

remove the several rectal papillæ present. I shall next open the abdomen with the patient in the Trendelenburg posture. I find a slight amount of fluid in the abdominal cavity. The intestines, the appendix and the abdominal and pelvic viscera are much congested, the condition simulating tuberculosis. The uterus is retroflexed and both ovaries, as I expected, are adherent under the fundus. The right ovary is at least twice its normal size and cystic, and I shall remove this ovary and corresponding tube, which is occluded. Although both ovaries are bound down in adhesions I think it best, because of the Graves' disease, to take chances on leaving the left one behind after releasing it from its inflammatory bed. The tube is apparently normal. I shall hold the uterus forward by the internal Alexander operation and finally close the abdomen with two layers of catgut, silkwormgut tension sutures and a buttonhole skin suture.

Remarks.—Before proceeding to discuss the question of exophthalmic goitre as a disease *per se,* if indeed it is, I want to give you the history of four patients who were operated on by me several years ago for much the same condition without the removal of the thyroid. These cases are typical of many passing under my observation.

Case 2 was one referred by Dr. L. E. Baker, of Mechanicsburg, Ohio. She came to me early in April of 1910 with the following history: Her thyroid had been enlarged for years, her pulse was 135, her eyes were prominent, she had Graefe's sign (the upper lids failed to follow the downward curve of the eyeball), and also Joffroy's sign (absence of forehead wrinkling when the chin is fixed on the chest and the patient looks upward). She had tremors and profuse perspiration. I kept her in bed a week under *Gelsemium* 3x and *Strychnia phos.* 1x before operating. Then I operated for complete procidentia of the uterus and removed a rosette of unusually large hemorrhoids which completely surrounded the rectum. Her convalescence was uninterrupted and within six months from the time of the operation her pulse was normal and her goitre had disappeared. She tells me that since the operation she has enjoyed almost ideal health.

Case 3 was a little patient who was at the time of her operation, five years ago, 22 years of age. She was brought to me by Dr. B. G. McCurley, of Cortland, Ohio. She had such a spasm of

the vagina that it was impossible to make anything like an intelligent bimanual examination without anesthesia. She had a history of long-continued irritation in the region of the appendix with a great deal of indigestion and gastric distress. The appendix had been removed by another surgeon and this relieved her entirely of her gastro-intestinal symptoms. She had, however, a most obstinate dysmenorrhea which drove her almost insane. The pulse was 120, there was marked enlargement of the thyroid, there were tremors and all the symptoms of Graves' disease, except the prominence of the eyes. There was a profuse, nasty leucorrhea. Examination under anesthesia showed the uterus to be retroflexed, the left ovary enlarged, and the fundus in the cul-de-sac of Douglas. On June 28, 1911, I did a divulsion, a curettage, applied iodin, packed the uterus, dilated the rectum thoroughly, overcame adhesions of the clitoris and opened the abdomen. I examined the region of the appendix to find it free from adhesions, but indurated, found the left ovary cystic and the right to all appearances normal. I, therefore, removed the left ovary, did the internal Alexander operation by the Kelly method, removed the appendix, and closed the abdomen in the usual way.

Convalescence was uninterrupted and the spasm of the vagina entirely disappeared. She has since married and there is no dyspareunia. The pulse at no time went above 100 following the surgical work, the bowels move regularly, the hands and feet which were formerly cold are warm, and she enjoys practically normal health .

Case 4.—This patient also came to me more than five years ago (May 10, 1910). She was referred by Dr. Albert E. Elliott, of Lodi, Ohio. She had been married fifteen years. One child born dead, three years before coming to me, which was her only pregnancy. Labor was very hard. She menstruated at 13, and was well as a girl, except for rheumatism and "malaria." She dated her illness from the birth of her child. She began to have heart trouble eight months previously to coming to me. With the tachycardia there were muscular tremors, morbid perspiration, a profuse discharge of burning urine, indigestion, which she had had for years, together with constipation and mucous enterocolitis. There was backache, pain between the shoulders, cold hands and

cold feet. The menses were regular but always scant. Tachycardia worse during menstruation. Defecation painful. The pulse was 120 but regular. Hemorrhoids and a fissure were present. The uterus was retroflexed and studded with a number of small fibroids. Appendix area sensitive, cervix badly lacerated, there was a nasty leucorrhea, and the pelvic floor was relaxed. Blood pressure 120 mm. This patient was divulsed and curetted, iodin being applied to the interior of the uterus, after which a trachelorrhaphy and a perineorrhaphy were done, the rectum dilated, the hemorrhoids removed. Upon opening the abdomen I found a nasty little postcecal appendix, curved upon itself and almost obliterated. This was removed. The retroflexed uterus contained so many small fibroids that I thought it best to remove the fundus, together with the ovaries, which were enlarged and cystic. All raw areas were covered with peritoneum. Her convalescence was uninterrupted and she began to improve almost immediately following the operation. She has gained 40 pounds in flesh and, while her pulse to-day is 100, she has no other symptom of Graves' disease. The enlargement of the thyroid entirely disappeared and she tells me that she is enjoying almost perfect health. During her convalescence there were several severe hemorrhages from the bowel. These hemorrhages lasted for about six weeks, coming from some place high up in the bowel. At that time I was not tying off the appendix before inverting it, and I have always suspected that the hemorrhage came from the inverted appendix.

In the *North American Journal of Homœopathy,* February, 1899, I published an article under the caption of "Exophthalmic Goitre as a Hystero-Neurosis." I was inspired to write that article because at that time a new impetus had been given to the treatment of exophthalmic goitre by the introduction of serum and organo-therapy. We were then, and still are, in doubt regarding much pertaining to its causation, pathology and treatment. Again in 1910, in an article on "Gastro-intestinal Auto-intoxication,"* referred to in our last talk, I called attention to what seemed to be a causal relationship existing between morbidity of the internal secretions and gastro-intestinal autointoxication,

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quoting from the writings of Hill and Blum, which were in harmony with the theories therein expressed. In the article on Exophthalmic Goitre I used the term "hystero-neurosis" in its broadest sense as one expressing the pelvic origin of symptoms which manifest themselves in organs remote from the pelvis. In its more restricted sense it implies the uterine origin only of such symptoms; but inasmuch as it is the mission of the gynecologist to deal with lesions of all of the female pelvic and abdominal viscera, diseases of the rectum and of the lower orifices should be etiologically considered in studying the subject under consideration.

It may be written down, as at least a working hypothesis, that when a physiological change in an organ or in organs is capable of affecting near or remote parts in a physiological way, pathological changes in the same organ or organs may, and frequently do, implicate the same parts.

Starting from the premises suggested by the foregoing hypothesis, let us consider the following facts: The mammary glands, probably because of an ovarian hormone, begin to enlarge almost immediately upon conception—a physiological change; they likewise respond to lesions of the uterus and ovaries, so that mammary pain and engorgement are common symptoms of such lesions. All physicians have, I dare say, many times cured indurations and circumscribed lesions of the breast by directing treatment to the pelvic organs. Both breasts are much more commonly affected when the induration is of reflex origin than when due to malignancy.

We not infrequently get as a result of pelvic congestion incident to puberty (a congestion which is so common that it is physiological rather than pathological) local spasms, headaches, nausea and vomiting, choreic manifestations and hysteria; the same symptoms characterize many organic lesions of the pelvic organs and can only be permanently cured by correcting such lesions. Nausea and vomiting so frequently follow conception as to constitute one of the classic signs of pregnancy; pathologically the stomach is one of the first organs distant from the pelvis to suffer from disease of the uterus and ovaries. Salivation is likewise a common symptom of pregnancy, and I have elsewhere placed on record several cases of profuse salivation in the non-pregnant which dis-

appeared only after directing treatment to the pelvis. The thyroid gland, the heart and the eyes are the organs which chiefly suffer in exophthalmic goitre. As to the thyroid, even the Romans recognized its enlargement as a sign of pregnancy, and at the present time it is a common practice among horse breeders to measure the necks of mares before and after they have been covered to determine whether or not they have conceived. Nine months ago Dr. Morris Roasberry, of New London, brought to me a young woman pregnant for the first time who, during her fourth month, suddenly developed a goitre with such a degree of tachycardia as to give rise, because of irregular hemorrhages from the uterus, to strong suspicion of a ruptured ectopic pregnancy. Under rest and proper medication the thyroid speedily returned to its normal size, and the heart's action likewise became normal. Gestation resumed its course uninterrupted by a return of the Graves' disease. The tendency of the gland to enlarge during puberty and the menopause is additional evidence connecting it, both physiologically and pathologically, with the female reproductive organs. While it would be carrying the philosophy of analogy too far to say that the eyes are physiologically disturbed by the several crises which characterized the life of woman, it is indisputable that the eyes are often most seriously disturbed by uterine and ovarian disease. I need only refer to the flushes and anemias of the menopause, to the palpitation and congestions of puberty, as well as to the nervous phenomena which characterize these crises, to prove the close sympathy existing between the reproductive and pelvic organs and the sympathetic nervous system. Further evidence, were it needed, can be obtained by anyone who will thoroughly divulse the rectum and uterus for cold, clammy hands and feet, a condition which so frequently attends malnutrition and autointoxication, and which is due to the irregular distribution of blood throughout the body, it being forced from the extremities by vasomotor spasm. I have frequently seen chronically cold hands and cold feet grow warm and remain so within a few hours after a thorough divulsion of the rectum. I believe that the gynecologist or surgeon who neglects to make such divulsion when he has to do with chronic constipation in the neurasthenic is neglecting a measure of the greatest possible benefit to his patient. Again, to make the picture more complete,

morbid perspiration, which constitutes so prominent a symptom of Graves' disease, likewise results from utero-ovarian changes, especially during the menopause. The diarrhea of Graves' disease finds its counterpart in the diarrhea which is so often met with in the hystero-neurotic. The tremor of Graves' disease is not unlike the tremor incident to certain of the hystero-neuroses; the flushed skin of Graves' disease has been duplicated many times by disturbance and disease of the reproductive organs (dermatoses). And, finally, the psychical aspect of the disease is met with so often in the hystero-neuroses, that even the alienists who until comparatively recently ignored the pelvic organs as mind-disturbing factors are now directing attention to these organs when psychoses exist.

Gaskell (quoted by Wilson) in a detailed study of much new material suggested that in *ammocætes* the thyroid gland may still have a definite sexual relationship. He reviewed the relationship of the endostyle in *ammocætes,* the larval form of the lamprey, to the similarly placed sex-gland in *homarus,* and presents convincing evidence that the two are homologous. This is a bit of biological knowledge which has a bearing, though remote, upon the close relationship existing between the sexual organs and the thyroid in humans.

I have already shown in Chapter VIII. the manner in which disease and displacement of the pelvic organs in women induce autointoxication. In my earlier experiences in dealing with Graves' disease as a reflex condition I failed to cure too large a per cent. of my cases, and had to attack the thyroid direct, because I failed to recognize autointoxication as an important factor in the production of goitre, both endemic and exophthalmic. At the present time there is to be found in the medical literature abundant evidence going to show that autointoxication is not infrequently responsible for goitre. For instance, McCarrison in his investigations of the subject in India accumulated evidence showing that endemic goitre frequently comes from a water-borne irritant. In such cases, says Charles Mayo, "ensuing chronic intestinal toxemia may cause an extra demand on the thyroid." Plummer has shown a great similarity in the damage to the essential organs of the body, such as the heart, kidney and liver, by hyperthyroidism and various forms of toxemia.

Sasaki (*Zeitschrift für Chirurgie,* October, 1912) has I think conclusively proved by his experiments on rats that the size of the gland can be increased, with a very active proliferation of glandular elements, by fecal poisons. Acting upon this theory, McCarrison has successfully treated goitre by a composite vaccine obtained from the intestinal canal.

Farrant (*British Medical Journal,* July 18, 1914) says "that endemic goitre is caused by toxins from the typical forms of B. coli. When degeneration has taken place in the thyroid, removal of the toxemias causes involution to take place only in the hypertrophied portion; the adenomata and cysts are left.

Von Graff and Novak (*Arch. f. Gynekologie, 1914, cii, No. 1*) state "that the disturbances in the genital sphere with exophthalmic goitre are too common to be merely casual. The onset of Graves' disease further is liable to coincide with puberty, pregnancy or the menopause. It seems probable that in certain diseases the genital anomaly is the first to develop and this starts up the exophthalmic goitre by its influence on the thyroid or on the sympathetic nervous system. The opposite is also known to occur and exophthalmic goitre may thus be primarily thyrogenous, neurogenous or ovariogenous." In 27 per cent. of uterine myo-fibromas passing under my observation the thyroid was more or less enlarged.

Carschmann says, "that in all cases of obstinate *nervous* diarrhea a thyroid origin should be suspected, even without any other indications of thyroid disturbances." He then cites a case of a woman of 43 who had had a diarrhea of a most distressing character for six months which failed to respond to all ordinary treatment and which was immediately cured by resecting the thyroid.

Is it not strange, then, with the data at our command that disease and lesions of the generative organs and of the gastro-intestinal canal have been so long ignored as causative factors in the production of exophthalmic goitre? I recognize the fact that many cases of exophthalmic goitre occurring in women are entirely independent of disease of the reproductive organs, and I do not hesitate to do a thyroidectomy when I deem it necessary; but the close sympathy existing between the female reproductive organs and the thyroid, eyes and circulatory system forces itself

upon the observing physician and cannot be set aside. I fully appreciate, too, that it is often impossible to distinguish between the so-called hystero-neuroses and lesions of central origin. The differential diagnostic points have been so admirably summarized by Englemann (whose work in the field of the hystero-neuroses was pioneer work deserving the greatest possible praise) that I shall quote from him nearly verbatim:

1. *A neurosis is probable and may be suspected:*

(a) By the existence of violent symptoms without corresponding pathological changes or febrile reaction.

(b) By the existence of lesions, uterine or ovarian.

(c) By the failure of proper remedies to afford relief.

(d) By the aggravation of symptoms in the affected organ corresponding to exacerbation of uterine disease.

2. *A neurosis is proved:*

(a) If symptoms are not aggravated by causes which are known to aggravate existing pathological changes in the organ affected. Thus, the use of indigestible food will not aggravate a gastric neurosis, whilst the most violent symptoms may appear in response to a diet which would seem indicated in actual stomach diseases.

(b) If the symptoms are aggravated by causes which give rise to exacerbations of existing uterine disease.

(c) Improvement of symptoms upon treatment of uterine or ovarian disease regardless of any interference with the organ in which the neurosis appears.

(d) By a cessation of symptoms upon improvement or cure of uterine or ovarian disease.

The cases just quoted by me, and those I have elsewhere recorded (Text-book of Gynecology, 2d edition), conform in almost every detail to this acid test of Englemann's.

TREATMENT OF EXOPHTHALMIC GOITRE.

Rogers (*Annals of Surgery,* September, 1914) analyzes 62 cases not improved by thyroidectomy, or who applied for relief after one or more partial thyroidectomies. All of them complained of a greater or less amount of asthenia or inability to expend the normal amount of mental and physical energy, with a blood pressure of 140 mm.

I am beginning the discussion of the treatment of exophthalmic goitre with this significant quotation in order to show that even when thyroidectomy or lobectomy is indicated, the after treatment is of the greatest importance. In all of the cases shown you today a carefully outlined after treatment was observed for at least a year. Such treatment comprehends the regulation of the diet where autointoxication is a factor, the care of the skin by taking frequent baths, the care of the bowels so that obstipation and its attendant evils are overcome, rest when necessary and, above all else, proper internal medication—all of which should, of course, be exhausted previously to surgical work of any kind. In 1907 Landström reported striking results from the local use of quinin and urea in the treatment of toxic goitres. Watson, of Oklahoma City, too, but recently, indorsed this treatment, basing his conclusions upon its use in 50 cases. In homœopathic literature cures have been recorded under the use of *Iodin, Gelsemium, Spongia, Fucus Vesiculosis, Veratrum Viride, Amyl Nitrosum, Glonoin, Belladonna, Ferrum, Arsenicum, Lycopus* and the *Calcareas.*

In pre-operative cases when the system is profoundly impressed by the hyperthyroidism, the patient should be placed in bed and an easily assimilated though nourishing diet administered. Fear and worry are such important factors in goitre that every effort should be made to reassure the patient and relieve her of all mental worry and excitement. Massage in order to give her exercise without physical effort is advantageous. Electricity and the Roentgen rays are often of the greatest value. And marked lesions of the nose and nasal pharynx should be overcome.

Exophthalmic goitre is a chronic disease presenting exacerbations and ameliorations of symptoms and may extend over a period of months or several years. The removal of the thyroid is not ordinarily a serious procedure so far as immediate results are concerned except during the periods of exacerbation when the case should be considered a medical one. In the language of the Mayos, "surgery is indicated in the up-wave of improvement." In those cases not benefited by medical treatment, Porter's plan of injecting hot water is to be tried. If improvement follows this procedure and the patient still remains in so critical

a condition as to make lobectomy unwarranted, ligation of the thyroid arteries, beginning first with the left upper pole, should be done. Later on the artery in the right upper pole can be ligated, and three or four months later as much of the gland as seems best can be removed. My argument is not against the removal of the gland when other measures fail. I am simply trying to emphasize the fact that thyroidectomy is today being altogether too frequently done in non-malignant cases, the surgeon attacking the result rather than the cause of the disease. For cosmetic reasons, even after the constitutional symptoms of exophthalmic goitre are overcome, it may seem wise to remove the hypertrophied gland when the hypertrophy persists. The greatest care must, however, be observed in thyroidectomy not to remove too much of the gland and not to injure the parathyroid.

In the selection of the internal remedy it will be noted that those having a reputation of curing goitre are capable of affecting the system in one of two ways: First, either by profoundly impressing the system in a constitutional way so far as the metabolic processes are concerned; or, second, by greatly disturbing the vasomotor system.

Iodin has had, perhaps, a greater reputation in all schools of medicine than any other single remedy used in the treatment of goitre. Its indiscriminate use both externally and internally has, however, wrought much harm as well as much good. Like all other remedies, it should be used with discrimination. It is conceded that even in myxedema, Basedowism, because of the thyroid tissue still present producing thyroidin with the iodin furnished to the body may develop. It can also be induced from the use of *Iodin* either externally or internally applied. In myxedema there is hypo- instead of hyper-thyroidism. Therefore in hyper-thyroidism large doses of the drug will produce an aggravation. If, on the other hand, the smaller homœopathic or substitutive doses are administered, and if clear cut homœopathic indications are present, no aggravation will follow. Such indications are rapid emaciation, notwithstanding the fact that the patient has a good appetite; mental anxiety; rush of blood to the head, and a feeling of a tight band about the head; frequently ravenous hunger; the heart feels as if squeezed in an iron hand; great weakness and fainting; the patient is always worse in a warm room and better in the open air.

With the foregoing symptoms present I never prescribe *Iodin* in a lower potency than the 3x (1-1000).

Gelsemium is a remedy especially useful when tachycardia is a marked symptom. There is a feeling as if it were necessary to keep in motion or else the heart's action would cease. There is palpitation, the pulse being soft though full; the heart's action is greatly accelerated by the slightest motion; there is mental apathy with great listlessness. It is particularly useful if the symptoms have been induced or aggravated by fright, fear, or exciting news. There is usually a good deal of vertigo. My favorite potency for this condition is the second decimal.

Spongia Tosta.—This remedy contains *Iodin,* but seems to have an action peculiar to itself. It will sometimes be found useful when *Iodin* fails to give relief. There is great dryness of all the air passages, with hoarseness; the larynx is dry, burns and is constricted; there is rapid and violent palpitation with dyspnea so that the patient cannot lie down. There is swelling and induration of the glands other than the thyroid, whereas in *Iodin* the glands in general are atrophied. It should always be used in the lower potencies.

Fucus Vesiculosis is reputed a useful remedy in exophthalmic goitre where there is obesity. It overcomes the obstinate constipation sometimes present and aids digestion. All cures reported from its use have been in material doses—a teaspoonful of the tincture three times a day. I do not think the remedy is homœopathic to goitre.

Veratrum Viride.—It is especially useful where there is great vascular excitement; muscular twitchings throughout the body; congestion, especially of the lungs and base of brain; a constant dull burning pain in the region of the heart. I use the drug in the lower potencies.

Amyl Nitrosum.—Invaluable in overcoming the vasomotor disturbances so often present. The face is flushed; there is heat and throbbing in the head; there is palpitation of the heart; there is great anxiety; there is great craving for fresh air; there is surging of blood to the head and face; there is flushing followed by perspiration; the heart's action is tumultuous. The greatest possible care must be used in administering this drug when the foregoing symptoms are present, in order not to produce an aggrava-

tion. I never use it in a potency lower than the sixth decimal dilution.

Glonoin (Nitro-Glycerin).—I fully appreciate the value of nitro-glycerin in physiological doses (1-100 of a drop) where there is vasomotor spasm and increased intra-arterial pressure. Therefore, as a palliative agent in asthma, angina pectoris, heart failure and interstitial nephritis it is invaluable for overcoming the arterial spasm, which is indicated by the small, wiry pulse, with facial pallor. In small doses, however, it has a range of action much wider and its sphere of usefulness is much broader than when given in physiological doses. The symptoms calling for the substitutive action of the drug are: Pulsation throughout the body; throbbing in the whole body to the very finger-tips; surging of blood to the head and heart; confusion of the head with much dizziness; aggravation by heat; throbbing headache, the head feeling enormously increased as if the skull were too small for the brain; the neck feels full, the face is flushed, hot and livid; great palpitation of the heart with dyspnea; symptoms relieved by the use of alcohol and especially aggravated by the heat of the sun. When the foregoing symptoms prevail, *Glonoin* should never be used in a lower potency than the 12x.

Belladonna.—This is another remedy whose antipathic use in the form of sulphate of atropin as a local anesthetic and anti-spasmodic, as well as for the purpose of drying up the secretions and of paralyzing the accommodation of the eye, is often of the greatest effect when indicated, and will be thus utilized by all intelligent physicians. It has, however, like *Glonoin* and *Amyl Nitrosum,* a much wider range of application in homœopathic or substitutive doses. In such doses it is especially indicated when there is heat, redness, throbbing and burning in any part of the body, especially in the face. The eyes are glaring, the carotids throb and there is great mental excitement. There is dryness of the mouth and throat with aversion to water. The pain in the head is located especially in the forehead and is aggravated by light, noise, jar, and lying down and in the afternoon. The pupils are dilated, there is great dryness of the throat with difficult deglutition; spasm in the throat; the skin is dry and hot. When these symptoms are present, it should not be used in a lower potency than the third decimal dilution.

Ferrum Metallicum.—Undoubtedly useful in material doses where the blood is poor in hematin. On the other hand in plethoric, hemorrhagic conditions the substitutive dose is necessary in order not to create an aggravation. It is especially called for in weakly, anemic or chlorotic individuals with alternate fiery redness and paleness of the face. The face becomes flushed from the least pain or exertion. If there is marked glandular involvement, the iodid of iron is the preferable form.

Arsenicum Album (Arsenious Acid).—To be thought of where exhaustion, prostration and emaciation are marked. There is great restlessness; the pains are of a burning character; there is unquenchable thirst; there are not infrequently evidences of autointoxication; there is great anguish of mind; the patient fears death; there is burning in the eyes and not infrequently acrid lachrymation; gastric disturbance with burning pains in the stomach; not infrequently the urine is albuminous, with epithelial cells; there is palpitation of the heart, pain, dyspnea and faintness; the skin is dry, rough and scaly rather than moist. The third decimal trituration is my favorite potency and preparation.

Calcarea Carbonica (Carbonate of Lime).—Especially to be thought of as a constitutional remedy where the vegetative sphere is much disturbed, with impaired nutrition and involvement of the bones. Carbonate of lime has the power to raise the blood coagulability, if given in physiological doses. The specific symptoms calling for its use in homeopathic doses are malnutrition characterized by icy coldness of the hands and feet with much perspiration about the head, all of which signifies both vasomotor paralysis and spasm; menses too early, too profuse and too long, with irritating, milky leucorrhea following the menstrual period; palpitation of the heart with feeling of coldness and restlessness; oppression of the chest.

Lycopus Virginicus (Bugle-Weed).—*Lycopus* in material doses has long had a reputation in the treatment of exophthalmic goitre. It is especially useful where there is tumultuous action of the heart with more or less pain, constriction and tenderness; palpitation from nervous irritation with oppression around the heart. It should be used in ten drop doses of the tincture every two, three or four hours as necessary.

Jaborandi (Pilocarpus).—In physiological doses a most valu-

able agent when it becomes necessary to relieve congestion of the kidneys, with urinary suppression, through supplementary action of the skin. I have on a number of occasions recorded my experience with the drug in a homeopathic way where there is marked vasomotor disturbance with abnormal perspiration. It gives rise in full doses to increased heart action with pulsation of the arteries, to tremor and nervousness, to sweating, to redness of the skin, to diarrhea and dysuria, to disturbance of vision and to bronchial irritation with expectoration. Where these symptoms are present the drug should not be given in doses stronger than the second decimal dilution.

CONCLUSIONS.

1. Exophthalmic goitre, or Graves' disease, is primarily medical in character and should be so considered.

2. While recognizing that the thyroid is at times primarily at fault and is the sole cause of the constitutional manifestations of the disease, this is not, in the writer's opinion, true in the majority of instances.

3. In all cases of exophthalmic goitre a thorough general and physical examination should be made. The evidence pointing to the frequent reflex origin of the disease, or to its auto-toxic origin, can no longer be ignored. In all instances when such causes exist they should be overcome before the thyroid, or any portion of it, is sacrificed.

4. If the disease has existed for any length of time, careful post-operative treatment should be observed for at least twelve months following whatever surgical work is resorted to. It may at times be necessary, even though the constitutional symptoms disappear, because of the hypertrophy and hyperplasia of the gland, to perform lobectomy or thyroidectomy for cosmetic purposes. In operating upon the gland great care must be observed not to remove or injure the parathyroids, in order to avoid tetany.

CHAPTER X.

REFLEX AND TOXIC EPILEPSY.

Patient, aged 32, referred by Dr. F. M. Stratton, Pioneer, Ohio. Married 11 years; two children; no miscarriage. First labor hard; instrumental delivery. Father living, æt. 64; mother living, æt. 61. Mother has hemiplegia and interstitial nephritis. Father and mother second cousins. Two brothers and two sisters in normal health. Began to menstruate at 12. Well as a girl. Epilepsy developed five years ago, three years after the birth of the oldest child. No particular menstrual trouble. Epileptic paroxysms not associated with menstrual period. Epileptic attacks typical grand mal—face much congested, froths at mouth, injures herself when she falls, bites her tongue and is unconscious for some time after the attack. Aura starts from right ovarian region. Migraine, from which she has suffered for years, follows epileptic seizures. She is constipated, with mucous enterocolitis; there is marked indigestion, and she is becoming melancholic; had an attack at least once a month before taking bromides. Mentality beginning to be affected.

Physical.—Small lump in left breast near nipple which is freely movable. Cervix badly lacerated, pelvic floor relaxed; vaginal outlet very irregular and rough from laceration. Appendix palpable. Uterus sharply retroflexed with the right ovary enlarged and under the fundus. No other significant physical changes.

Were this patient to present herself to me with the physical conditions given, I should feel justified in operating, even though she did not have epilepsy. My experience teaches me that it is possible to cure a certain per cent. of epilepsies by correcting such lesions as we find in this case. I am, therefore, going to do a divulsion and a curettage, apply iodin to the endometrium, do a trachelorrhaphy, removing a plug of cicatricial tissue on the left side which extends almost half way to the fundus, do a perineorrhaphy, splitting the tissues sufficiently far back to overcome the rectocele and bring the levator ani muscles together underneath the mucous membrane, remove the teats of tissue in the vaginal outlet, overcome the adhesions of the clitoris, there being evi-

dently a good deal of irritation in this region, dilate the rectum thoroughly, and, finally, open the abdomen in the median line. I find an enlarged cystic left ovary which I shall remove, leaving the tube behind. The right ovary is normal, and I shall sterilize her by incising the tube and stitching the proximal end to the uterus between the folds of the broad ligament. I shall next hold the fundus forward by the Kelly modification of the internal Alexander operation. I shall next remove a nasty, hard indurated appendix and then close the abdomen in the usual way. I shall remove the lump in the breast and submit it to the pathologist for examination.*

Remarks.—It is not my intention to discuss in detail the disease known as epilepsy or "falling sickness;" nor shall I discuss "idiopathic" epilepsy, confining my remarks entirely to the disease when due to reflex or toxic causes. We cannot, however, in dealing with any phase of epilepsy ignore certain facts. For instance, it is well known in studying the hystero-neuroses that the impressionability of the nerve centers plays a most important role in the production of nervous affections of all kinds. Such impressionability may be hereditary in character, and, indeed, is very often hereditary in epilepsy. Strümpell especially emphasizes the fact that in a large per cent. of epileptics, while there may not be other cases of epilepsy, there usually will be found neurotic tendencies in the ancestry of the family. I shall also ignore the subject of traumatic epilepsy so far as skull depressions and injuries of the brain are concerned.

Most cases of epilepsy develop before the patient reaches maturity. In many instances the disease can be traced to emotional disturbances such as fright, anxiety, or to infantile convulsions.

So far as the *symptoms* are concerned there are three different forms of epilepsy—*Grand mal, Petit mal,* and *Jacksonian.*

In *Grand mal* there is usually a sensory, motor, vaso-motor or

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*March 1, 1916. While it is too soon to pronounce this case cured and it is the farthest from my intention to so report it, a letter from her physician informs me that she has not had a paroxysm or any symptoms of epilepsy since the operation eight months ago. Her convalescence was interrupted. The bromides were gradually withdrawn during the first ten days and *Belladonna* 3x substituted. The breast tumor proved to be innocent.—J. C. W.

psychical aura, which is a peculiar warning symptom. This manifests itself in the form of an unusual sensation in some part of the body—sometimes a peculiar odor or taste; sometimes sickness or pain in the epigastrium with palpitation; sometimes hallucinations; or there may be merely a dreamy sensation preceding the attack. This aura is of short duration but ordinarily the interval between it and the seizure is long enough to permit the patient to find a place of refuge. In rare instances it comes on hours or even days before the attack. In certain instances there is no warning and the patient suddenly drops wherever he happens to be. Not infrequently the attack is preceded by an involuntary cry. Respiration is suspended, the patient becomes cyanotic and there are tonic spasms of the muscles of the entire body. The legs are extended, the hands and arms are flexed with the fingers tightly closed, the teeth are clenched, and the head is usually drawn to one side. Then follows the clonic stage with, first, tremor of the muscles, which are finally thrown into violent convulsions. There is great distortion of the muscles of the face, the patient froths at the mouth, and not infrequently bites his tongue. The eyes are rolled upwards. Sometimes with it there is an involuntary evacuation of the bowels and bladder. Next comes the period of coma which is usually characterized by a quiet, restful sleep. Should the patient become conscious at once, there is always more or less confusion of the mind with disturbed mentality lasting for several hours.

In *Petit mal* consciousness is not lost, or if lost it is but momentary. The patient has a blank expression of countenance with a break in the continuity of thought. Sometimes even while irrational the patient may do automatic acts.

In *Jacksonian epilepsy* there is a lesion of a cortical motor center of the opposite side and the seizure is limited to a group of muscles on one side of the body, as the arm, leg or face.

The seizures may for a long time occur only at night, finally coming on both during the day time and at night.

I have in my Text-book devoted several chapters to the subject of the so-called "Hystero-Neuroses," a subject which has always interested me intensely. I have there shown that the symptoms referable to the genital system constitute but a single group of that varied conglomeration of symptoms which may have their

origin in any organ of the body. The late Dr. Flint long ago called attention to the cardiac neuroses, and Hilton long ago to the rectal reflexes. The nasal and bronchial neuroses, as well as the ocular, are now receiving due attention. It is well known that under favorable conditions the slightest derangement or modification of function in a sensitive organ, so slight as to attract no attention to that organ, may, to use the simile of a well known writer, cause distant organs to respond most violently—as an alarm gong responds to the tap of a distant button.

The sympathy existing between the stomach and the brain is well known and the one will quickly respond to any disturbance of the other. It may be impossible to overcome reflex asthma and so-called hay-fever without directing attention to hypertrophied posterior nares or the nasal mucous membrane. We are told by the oculists that certain obscure nervous symptoms, and even epilepsy, may be due to errors of refraction.

We know that an anal fissure will not only cause most exquisite pain at the seat of the lesion, but may disturb the whole vasomotor system, giving rise to the most irregular distribution of blood in various parts of the body. I have in another place (Text-book of Gynecology, 2nd edition) recorded a case of paraplegia which disappeared after correcting a urethral fissure. I cite these well known clinical facts to show that the urogenital sphere is only one of many capable of impressing the organism most profoundly in a reflex way; and the absolute necessity of studying the organism as a whole in looking for reflex causes, particularly when dealing with so obscure a disease as is epilepsy.

Church-Peterson in their classic work on "Mental and Nervous Diseases" say: "In fact any local peripheral cause of constant nerve fag may, in those of unstable organization, serve to upset the nervous apparatus and produce epilepsy." Under the head of reflex causes they include sensitive scars, decayed teeth and ingrowing toe-nails. They also mention the fact that agents such as alcohol, lead, mercury, tobacco, chloroform, ether, morphine and cocaine have been accused of inciting epilepsy and state that the first fit may follow a drinking bout. Syphilis is also a possible causative factor constantly to be kept in mind.

Charles A. L. Reed, in a most comprehensive paper (*Journal A. M. A.*, March 27, 1915), states that idiopathic or essential

epilepsy is always an infection, the infecting organism finding its way from the alimentary canal into the blood. Organisms thus transferred, because of mechanical distortions of the gastro-intestinal canal, result in acidosis involving all of the body tissues. The phenomena of an epileptic seizure can then be explained, according to Reed's theory, by the existence of an acidosis edema involving the conduction paths in the brain. Reed believes with Brau that an organism, the epilepticoccus, has the same relative importance to epilepsy that the respective etiologic organisms have to malaria, tuberculosis, tetanus, diphtheria and typhoid.

I have also in my Text-book, and at other times,* recorded a number of cases of epilepsy entirely cured or greatly relieved by directing attention to the pelvic and abdominal organs. The question of autointoxication has not until comparatively recently received the attention it deserves as a factor in producing not only epilepsy but many other organic lesions. Since its importance has been recognized as a causative factor in the production of epilepsy the prognosis of non-idiopathic epilepsy is much more promising.

In the last chapter I summarized the symptoms which ordinarily will enable the physician to distinguish between a neurosis with absence of structural changes in the organ or parts involved, and organic disease of nerve centers. The application of those rules to the case in hand suggests the query: Does epilepsy ever occur as a hystero-neurosis in the sense in which the term is there used? From present data accurate deductions cannot be made, and dogmatic statements are unsafe.

There nevertheless remains a large field in the realm of the reflexes which is as yet unworked and within this field lies epilepsy. I think that there is a pretty general concensus of opinion among both neurologists and surgeons that epilepsy may and does occasionally arise from lesions of the ovaries and the uterus. The opinion is still more pronounced that gastro-intestinal autointoxication may, where the inherited tendency is present, give rise to epilepsy. On the other hand, as regards the possibility

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*Epilepsy as a Hystero-Neurosis, *International Homœopathic Congress,* June, 1891.

"Reflex Epilepsy," *Homœopathic Observer,* 1896.

of curing the epilepsy thus caused by removing or curing the offending organ, or by overcoming autointoxication, there exists the greatest difference of opinion even among surgeons. I am compelled to admit that the sum total of cures resulting from radical work upon the genital or abdominal organs is not encouraging, but it is sufficiently so to justify the correction of such lesions, providing such correction were justified even though the patient did not have epilepsy. The discouraging results have been due in the past largely to our lack of knowledge in selecting suitable cases for operative interference.

The most important distinction to be made between a true central lesion and a ganglionic reflex is the unfavorable prognosis of the one and the favorable prognosis of the other. Unfortunately an accurate diagnosis is sometimes impossible before treatment has been resorted to. It is owing to this fact that we are unable to select reflex epilepsies with unerring certainty. We are led to suspect the utero-ovarian origin of epilepsy if it recurs at each menstrual period and if we discover actual disease of these organs; but we cannot be positive until the offending organ is removed or restored to a normal condition. Even then that which, for want of a better explanation, we designate as "habit" may have so impressed itself upon the nerve centres as to continue operative after the primary lesion is overcome; or the irritation of a nerve fibre may continue even after the diseased organ has been removed. In this there is nothing remarkable, since similar phenomena constantly occur under other circumstances. Thus, menstruation will sometimes persist in a vicarious form long after the entire uterus and its appendages have been removed; an epilepsy undoubtedly due to a depression of the skull will not always cease after the condition of depression has been remedied; and an imaginary pain may recur in a foot for years after the limb has been amputated. The first two illustrations are examples of "habit;" the last is an example of the continuance of irritation by the compression of terminal nerve-fibres at the point of amputation. And so it is reasonable to believe that an epilepsy primarily due to utero-ovarian lesions, or to autointoxication, may be perpetuated, even though the original lesion be cured, the offending organ removed, or the autointoxication overcome.

It is this element of uncertainty which causes both neurologists and surgeons to hesitate before doing surgical work for true epilepsy. It must be borne in mind, however, that in epilepsy we are dealing with a disease whose pathological findings are both uncertain and variable. In one of the latest and most popular text-books dealing with internal medicine the subject of the morbid anatomy and pathology of epilepsy is dismissed in the following sentence: "Some unknown cortical disturbance." Different investigators working along the same line have come to as many different conclusions. One has declared that in epilepsy the weight of the brain is increased (Echeverria); another that its weight is diminished (Meynert); and still another that there exists an unequal proportion of the two hemispheres. Again, dilatation of the vessels of the superior portion of the cord; aneurysm and atheroma of the blood vessels; sclerosis of the cornu-Ammonis; anemia of the brain; an increased quantity of the cerebro-spinal fluid; tumors and thickening of the meninges of the brain; great redness and vascular tension in the fourth ventricle (Schroeder van der Kolk); alteration of the pineal gland; abnormal thickness and abnormal thinness of the cranial bones; perivascular and vascular changes in the cerebral cortex (Bloch and Marenesco); neurological proliferation (Chaslin); hypertrophy of the neurological bundles lying between the pia and outermost nerve bundles (Bleuler); persistent chymus and large intestinal glands (Ohlmacher); increased blood coagulability and fatty degeneration of some portion of the medulla oblongata are some of the many changes found, post mortem, in epileptics. Indeed, the changes recorded by pathologists are so various that it is utterly impossible to construct an explanation of the paroxysms upon a pathological basis.

There yet remains a by no means insignificant number of cases in which neither the foregoing nor any other lesion discoverable even by the closest scrutiny exists. In all nervous affections characterized by paroxysms, attacks, or fits of any kind, the essential feature is a morbid increase of reflex excitability, the symptomatic manifestation depending upon what nerve cells are altered in their vital properties. It has been pretty conclusively proven, as I have endeavored to show, that there is no constant seat of epilepsy; and it is not unreasonable to believe

that irritation of nerve cells in any part of the peripheral nervous system may so irritate the cells at the base of the brain or the upper part of the cord, or both, that in time their nutrition will become so altered as to create a morbid excitability. This comprises the extent of our actual knowledge of reflex epilepsy in so far as its pathology is concerned. The changes in these peripheral cells are doubtless more dynamical than physical and the most powerful microscope has not yet revealed the difference between those which are perfectly normal and those which possess great morbid reflex power. The fact that the early symptoms of an attack of epilepsy may be in very different parts of the body indicates that the location of these cells is variable. If this observation suggests anything, it is the possibility of the most diverse forms of peripheral irritation exciting epilepsy. This theory is in perfect harmony with clinical observation. Medical literature abounds in innumerable instances of epilepsy caused by injuries to nerves and organs distant from the brain.

A case is recorded (*Medical Record,* July 21, 1890) in which the attacks occurred once or twice a week, which was completely cured by the removal of a shoe button which formed in the left cavity of the nose the nucleus of a large rhinolith. Another case of Petit mal is recorded by Ayers, of New Orleans, in which all symptoms were relieved by curing septal and turbinate hypertrophies seated far back. Many cases of epilepsy and convulsions have been cured in male children by circumcision.

I submit that, in the light of the array of clinical evidence now in our possession, we are justified in believing that under certain circumstances irritation having its origin in the uterus or ovaries, or in the gastro-intestinal canal, may excite epilepsy; and that if we can locate such irritation and remove it, we may cure the disease, providing irreparable damage has not already been done to the nerve centers.

GENERAL TREATMENT OF EPILEPSY.

I deem it of the greatest possible importance, even after the removal of the probable remote causes of epilepsy, to place the patient under careful, general and local treatment. It is but fair that I give the opinion of a well known internist of our school, Bartlett (*Clinical Medicine,* 1908), who bases his conclusions on

over 1,500 cases of epilepsy passing under his observation. He chastises the specialist in no uncertain words by saying that "specialists whose training in the domain of general medicine has been sadly deficient are largely responsible for the promulgation of what, as applied to most cases of epilepsy, is a false theory; in that a very large per cent. of cases of epilepsy are diagnosed in their incipiency by these men as reflex convulsions." I believe that Bartlett is justified in a measure in this accusation, although in my opinion his dogmatic pessimism regarding the cure of certain epilepsies is entirely unjustified, and is not shared by many internists. It is all too true that too many specialists have not had the experience in internal medicine that is necessary to make a well rounded specialist. Bartlett especially emphasizes the importance of diet in the treatment of epilepsy, though admitting that there are the greatest possible discrepancies of teaching among the authorities regarding the best diet to be prescribed. Seguin, Gowers and others assume that the nervous system should be fed with the most nutritious foods, as in neurasthenia; while other writers, notably Haig, believing that epilepsy is a disease resulting from the uric acid diathesis, prohibit meats. My own experience leads me to believe that most epileptics eat too much. Intestinal autointoxication as a symptom of the disease should always be looked for and if present meat should be restricted and fruits and vegetables substituted, care being observed to keep the bowels well open. The patient should be taught to masticate his food thoroughly, and all indigestible foods in the form of sweetmeats, pastry, cheese, etc., prohibited. If the stomach is disturbed treatment should be directed to the same. If there is anemia, this should be overcome. Exercise of a kind free from excitement, and with an abundance of fresh air, is most beneficial. Tobacco, tea, coffee and alcohol are not to be used, especially in excess. In short, the patient should, in addition to a properly selected diet, be kept as free from worry and anxiety as is possible, should be permitted to take an abundance of exercise, always short of actual fatigue, should be furnished suitable amusement to prevent his becoming introspective, and should have his sexual habits carefully looked after. It is a notorious fact that epileptics are very often masturbators, and it is necessary, especially in the young, to watch the sexual habits most

carefully. Marriage should be prohibited, unless the patient is sterilized. In my opinion a patient who has epilepsy should not be permitted to bring children into the world, and I do not hesitate in all cases of the disease, when operating upon the pelvic organs of women, to remove a section from the tubes and bury their proximal ends in the broad-ligament folds.

Balint (*Neurol. Centralbl.*, May 1, 1913) advocates the withholding of salt in the diet of epileptics, a practice which was in 1899 first advocated by Toulouse and Richet, whose results with thirty patients were most satisfactory. During the last two years there has been much written in favor of this practice. Where the salt free diet is combined with the bromides, it is generally conceded that the treatment has a great influence on the attacks of Grand mal. Balint, however, admits that the treatment may have an unfavorable effect in two ways: (a) When the salt free diet does not agree with the patient, whose nutrition then suffers. (b) If bromism appears. In both cases the treatment must be modified.

Can Homœopathy do better than is done in the practice of the older school with the now universally used bromides? I think so. I freely admit that every now and then I have to do with cases of epilepsy where the frequency of the convulsions threatens either life or reason, when I have to use the bromides for temporary palliative purposes. I am always careful when an epileptic comes to me for surgical work who has been under the influence of the bromides to withdraw the drug gradually. We have in homeopathy, however, a class of remedies capable of producing, when given in full or poisonous doses, convulsions similar to epilepsy and should, therefore, in smaller doses be able to modify or cure the attacks. The most important, according to Hughes, are *Hydrocyanic Acid;* the three umbelliferæ—*Œnanthe Crocata, Cicuta Virosa* and *Æthusa Cynapium;* and *Belladonna.* "Next," says Hughes, "we have mineral substances, as well as vegetable, whose long-continued operation sometimes gives rise to similar phenomena, namely, copper, lead and arsenic. There are also drugs which, though never causing epileptiform paroxysms, have an ascertained relation either to over-excitability of the nervous centers or to their imperfect nutrition. In the first class are strychnia and its ores (as they may be called)—*Nux vomica* and *Ignatia;* in the second we have *Calcarea* and *Silicea.*" "These

drugs," says Hughes, "constitute our anti-epileptic armory. It is rarely that we have to go beyond them." Their use homœopathically in no way prohibits the intelligent use in a non-homeopathic way of remedies like *Glonoin* and *Amyl Nitrite,* which, when used immediately upon the appearance of the premonitory symptoms, not infrequently ward off a seizure.

Hydrocyanic Acid is called for when there is spasmodic constriction of the larynx with a feeling of suffocation, pain and tightness in the chest with palpitation. Cyanosis. There is sometimes torturing pain in the chest.

Cicuta Virosa (Water Hemlock).—This drug has an especial affinity for the nervous system, producing hiccough, trismus, tetany and convulsions, with bending of the head, neck and spine backwards giving rise to violent and frightful distortion; head turned or twisted to one side; worse from touch or concussion.

Belladonna.—Congestion of the head and face; furious excitement; perverted special senses, twitching, convulsions and pain. The eyes are glaring, the carotids throb, and there is great mental excitement with hyperesthesia of all the senses. Patient is worse from touch, jar, light and noise.

Cuprum Metallicum.—Convulsions that begin in the fingers and toes with violent contractive and intermittent pain; very frequently nausea and vomiting; aura begins at knees and ascends to hypogastrium, and there is unconsciousness, foaming and falling. In women the symptoms are all apt to be worse before the menses. There is jerking and twitching of the muscles of the extremities; cramps in the calves and soles.

Ignatia.—Especially useful if emotional disturbance is responsible for the epilepsy; hyperesthesia of all the senses and a tendency to clonic spasms; especially useful in hystero-epileptic cases where there is a rapid change in mental and physical conditions opposite to each other. Pain in small circumscribed spots, especially in the temples (clavus hystericus). Patient feels worse in the morning, in the open air, after meals, coffee, smoking, liquors and external warmth.

Calcarea and *Silicea* as nutrition modifiers are especially to be thought of. *Calcarea* in the form of Carbonate of Lime in the third decimal trituration where the vegetative sphere is much disturbed, as manifested by increased local and general perspiration, swelling of the glands and scrofulous and rachitic conditions

generally. *Silicea* is especially called for in epilepsy of scrofulous or rachitic children with large heads, open fontanelles and sutures. There is a lack of vital heat with a tendency to suppurative processes. Great prostration of both mind and body and great sensitiveness to cold.

The use of Crotalin and other snake venoms as advocated by Thom and Spangler for the purpose of diminishing the blood coagulability, which it is assumed is increased in epilepsy, has been tried by several well known internists with but indifferent success.

CONCLUSIONS.

1. Inasmuch as the pathological findings in epilepsy are most variable, it is more than probable that the causes giving rise to the disease are likewise variable.

2. The inherited factor in epilepsy is most important, the supposition being that the nerve centres are more impressionable and more easily excited than in normal individuals.

3. Because of the hyper-excitability of the nerve centers, irritation reflected from distant organs is much more harmful than would be the case in normals.

4. The importance of disturbed metabolism and intestinal autointoxication as disease producing factors is now generally recognized. The relationship of such disturbance to epilepsy has been so frequently observed as to justify looking for such disturbance in all epileptics.

5. Surgical interference in all epileptics is unjustifiable until all ordinary resources in the way of medical treatment, and the removal of all possible causes which can be removed by non-surgical method, have been exhausted. Even then surgical treatment is not justified, unless there are present lesions which, because of direct pressure upon the brain, or because of disturbance of the pelvic organs, or some interference with the metabolic processes, would justify operative interference even though the patient were not the victim of epilepsy.

6. Too much emphasis cannot be laid upon the necessity of careful post-operative treatment and in supervision of the patient's habits for at least a year after surgical work. The writer does not believe that, in the vast majority of instances, the bromides are necessary or advisable in the treatment of epilepsy.

CHAPTER XI.

SPECIFIC INFLAMATION OF THE FEMALE PELVIC ORGANS.

This patient, a very large, fleshy woman, is 42 years of age. Three months ago I was called by her attending physician to see her and found her suffering intensely from what he believed to be suppression of urine. The uterus was buried in a mass of inflammatory exudates, there was a temperature of 102° F. and she looked very ill. The husband admitted a gonorrheal infection some months previously. A long, soft rubber catheter was introduced with some difficulty and twenty ounces of urine drawn off. The patient was removed to the Huron Road Hospital, placed in bed, given large, hot douches with internal medication and for ten days seemed to improve, when she was seized with a hard chill. Examination of the discharge from the vagina did not reveal a Neisser infection. There was bulging in the posterior fornix, and on the night of January 23d she manifested symptoms of collapse. There was sharp abdominal pain, the abdomen was distended, the skin was cold and clammy and the heart's action almost imperceptible. Under the action of *Veratrum Album* she rallied from this attack but had another about four o'clock the following morning. I reached her bedside a little after six o'clock and found her cold and clammy, pulse 120 and very feeble. Under hypodermoclysis she again rallied when I made a vaginal puncture, gas-oxygen being used as an anesthetic, and drew away a large quantity of exceedingly offensive pus. A T drain was left behind through which the pus cavity could be nicely irrigated. She was very much distended and an effort was made by means of a high rectal tube to liberate the gas, but without much satisfaction. She was returned to bed in fairly good shape, and placed in the Fowler posture with hot applications to the abdomen.

Her immediate convalescence from this minor operation was all that could be hoped for. She, however, remained an invalid and suffered so much from pelvic pain, indigestion, constipation, cold hands and cold feet, soreness upon movement, etc., that it

now seems best, inasmuch as the pelvic floor is still full of exudates, and the uterus firmly fixed, to do radical work. I shall first fasten to the posterior fornix at the point of the original puncture a perforating forceps, which I described in the July, 1915, number of *Surgery, Gynecology and Obstetrics,* in case I again desire to institute vaginal drainage, which is more than probable. I shall have to make a long incision because of the thick abdominal walls and because also of the necessity of exposing the parts thoroughly in order not to injure the intestines. I find the appendix full of fecaliths and shall therefore remove it. The ovaries and tubes are dug from their inflammatory bed with a great deal of difficulty, the adhesions being very firm. Both tubes are distended with pus. I shall use catgut for all pedicles because of the danger of silk, were it used, becoming infected and giving rise to subsequent trouble. I shall hold the uterus forward with two chromic gut sutures to keep the fundus from falling backward and becoming re-attached to the raw area left behind. The hemorrhage is, as you see, very profuse. I shall next ask one of my assistants to force the perforating forceps through the posterior fornix from below, expand the blades and grasp within them two strips of washed iodoform gauze with which I shall institute vaginal drainage and pack away all raw areas. I shall close the abdominal wound in the usual way.

Remarks.—This case is so typical of hundreds which have passed under my observation, and with which all abdominal surgeons have to deal, that I cannot refrain from moralizing upon it. In 1909 I read a paper before the Bureau of Sanitary Science of the American Institute of Homœopathy, entitled "The Tragedy of the Gonococcus." In that paper I recorded several cases which were indeed tragedies. I have, in the chapter devoted to Vaginal Discharge and Leucorrhea, described my method of treating gonorrhea when it becomes chronic. I have also in that chapter emphasized the fact that when the disease becomes chronic the specific bacillus is not infrequently absent.

The acute manifestations of gonorrhea when it implicates the pelvic organs are of most serious import—the initiatory chill, the high temperature, the tenderness and pain within the pelvis and the abdomen, the increased intra-arterial pressure and the not infrequent distention of the abdomen being symptoms which de-

mand on the part of the attending physician the most careful and skillful consideration. It is indeed exceedingly difficult to prevent the extension of the disease from below upward, but an effort should always be made to do this through rest, posture, douching and local and general medication.

I do not propose to discuss, in considering the prophylaxis of gonorrhea, the various protective measures suggested by certain writers who seem to think that the unmarried man is justified in seeking extra-marital sexual relief. Whatever one may think of the necessity of sexual relief in order to maintain the physical well being of the individual the good to be derived therefrom is to my mind more than offset by the danger in promiscuous intercourse, no matter what precautions are taken, of contracting one or more of the venereal diseases. I have shown in the chapter quoted (Chapter IV) the chronicity of gonorrheal infection and the extreme difficulty of so completely eradicating the disease as to make it safe for the man who has it to marry, unless he has long been treated and frequently examined by an expert specialist.

The whole question of venereal disease and prostitution is handled by would-be reformers in such a childish and senseless way as to make most of the prophylactic measures which are recommended or adopted worse than useless. In handling the question of venereal disease in the past almost every well known biological fact has been ignored. Let me therefore trace for you from a phylogenetic viewpoint the evolution of the sexual instinct which has resulted in prostitution, at the same time giving my own views as to the best method of controlling this evil which is so undermining our civilization.

Physiologically the possession of the sexual instinct is absolutely necessary for the perpetuation of species. Without it all the lower forms of life would cease and even in man it is difficult to imagine that children would be brought into the world were the promptings on the part of ancestry purely altruistic. Without it, too, men and women would be supine and characterless, the world's divine sonnets would never have been written, the great conquests of explorers would never have been recorded, the sublime melodies of Beethoven and Wagner and Mendelssohn would never have been created, and most of the great victories

in battle would never have been won. I do not mean to assert that inspiring poetry must necessarily be written by men and women whose thoughts for the time being are not above matters sexual; that explorers like Columbus and Perry and Drake were in any way directly inspired to undertake the tasks which have made their names household words by the sex impulse; nor that Beethoven and Wagner and Mendelssohn were laboring under immediate sexual excitement when they composed for you and for me, and for the generations that are to follow, those transcendent melodies which lift us almost to Heaven. The thought I am trying to emphasize is that the normal sex impulse makes men brave and ambitious, willing and anxious to dare and to do, patriotic and chivalrous, with a love for home and a desire to perpetuate their kind. In women it makes for contentment and nobility of character, and inspires a longing for motherhood, its final consummation, and a love for husband and home. In nearly all instances where extraordinary vigor in old age manifests itself, as in the case of Goethe, whose life is reflected in his character of Faust, sexual vigor is preserved.

The normal sex impulse must then necessarily be reckoned with in studying the human body and its various functions. The function of reproduction is as much one of its functions as are digestion, assimilation and elimination. Indeed, it is the most imperious of all the functions, and luckily so, for were it not the human race, as I have alreay shown, would become extinct. In some of the lower forms of life, the scorpion, for instance, death on the part of the male follows soon after sexual intercourse. In undomesticated lower animals it is never called into action, except for the purpose of creating new life. The male never approaches the female, except at such times as nature has created a desire on the part of the female by the ripening and discharging of an ovule which requires for its fertility contact with the male element. At such times the male does not attract the female, but the female attracts the male. In many instances, too, the male is mated with two or more females; rarely will there be found more than one male mated with a single female.* These

*The European cuckoo is practically the only exception to this rule.—J. C. W.

well known biological and physiological facts—the sexual attraction in lower animals of the male by the female, the bigamous character of the male—should be borne in mind in our study of the question under discussion and will be referred to later.

It is also a well known fact in evolution that the farther we get away from the primitive forms of life the more complex do organizations become. Man of today is the most highly developed, intellectually, of all living organisms and therefore possesses a correspondence infinitely greater than does any other living thing. When living in the first stage of savagery, during which time he was developing a language, doubtless he had to live in trees in order to protect himself from more powerful animals and had to rely for his sustenance upon raw fruits, nuts, roots, etc. A little farther along we are able to trace his descent during the paleolithic period by the crude stone instruments which marked his wanderings. He had discovered fire which he could produce by friction, and could therefore live upon fish, mollusks and such other animal food as he could secure without even the primitive instruments of warfare. Then during the highest development of savagery he invented the bow and arrow, which enabled him to obtain a larger variety of animal food, as well as to defend himself. With his neolithic instruments he could do many things. From this point he merged into the first stage of barbarism when he began to manufacture pottery and to domesticate wild animals. Later on he discovered metals. He made sun-dried brick with which he built for himself houses of the simplest construction; and finally he learned to manufacture iron, which he fashioned into the sword for defense, and the plowshare for the cultivation of the soil. He was now able to invent script and a written language was the result. Then came the Greek heroes, the Italian tribes immediately preceding the founding of Rome, the Germans of Tacitus, and the Norsemen of the Viking age. He has finally conquered his environment to such a degree that he has largely overcome the danger of famine and hunger and is enabled, under fairly favorable circumstances, to protect himself, no matter what may be the climatic conditons, from heat and cold.

To a lesser degree man's ability to thus provide for himself is also shared by many of the lower animals; but man's superior

intelligence enables him to devise ways and means which are never to be found in animals governed only by instinct. He not only builds houses, no two exactly alike, that he may keep cool in summer and warm in winter, but also protects his body, once covered with hair, with clothing. He paints pictures which please the eye; he creates melodies which make him happy or sad as the case may be; he devises dishes which excite his palate; and he conquers the very elements that they may minister to his pleasures and his necessities; but in accomplishing all this he has deviated from type and in no particular more so than in his sexual habits and sexual life.

The first evidence that we have of the *family* was the so-called Consanguine family where the marriage groups were arranged by generations, and where all the grandfathers and grandmothers within a certain family were mutually husbands and wives: as were also their children, the fathers and mothers of the second generation, whose children formed a third cycle of mutual mates. The children of these again, the great-grandchildren of the first cycle, formed a fourth cycle. Brothers and sisters, male and female cousins of the first, second and more remote grades, were all mutually brothers and sisters and for this reason mutual husbands and wives. Then came the Punaluan family which excluded parents and children from mutual sexual intercourse as well as brothers and sisters. This probably was brought about on the principle of natural selection. But under the new order one or more series of sisters became the center of one group, their natural brothers that of another, so that a series of natural or more remote brothers lived in mutual marriage with a number of women not their natural sisters and *vice versa,* a group of sisters living with a number of brothers not their natural brothers. Next in the evolution of the family came the Pairing family where certain pairing of the sexes for a longer or shorter term took place. A man had his principal wife among many women and he was to her the principal husband among others. And from the pairing family was developed, because of property interests, the Monogamous family, which took place during the time of the transition from the middle to the higher stage of barbarism. Its final victory is one of the signs of beginning civilization. The monogamous family was founded on male

supremacy for the pronounced purpose of breeding children of indisputable parental lineage that they might inherit the fortune of their father.

All this to show how comparatively recent is monogamy and how difficult it is to conform the sexual relations of men and women unfortunately mated, or who do not possess proper moral restraint, to its ideals and objects. I am in no wise, in making this statement, belittling monogamy as an institution, which has been the greatest of all factors in advancing civilization. But as a student of anthropology and biology I cannot honestly ignore facts with which, in a professional way, I am daily confronted.

We then see that from the very dawn of civilization, and probably for infinite ages before the earliest record of that dawn, man has gratified his sexual promptings for purposes other than the perpetuation of species. So long has this continued that the perpetuation of species has finally become an incident of the sexual act rather than its primary object and the sexual habit in humans has developed into almost as much of a habit as are eating and sleeping. In women the desire is intensified by ovulation and the function of menstruation, which occurs every twenty-eight days; and in men by the retention of a somatic substance which creates a craving for relief from the libinous tension. Such relief is to be had normally only through sexual contact.

There are many eminent men in the medical profession, Freud, of Vienna, being perhaps the best known, who believe and teach that in the sexually ripe male and female an adequate sexual discharge is necessary for the maintenance of health and that if the discharge is inadequate there frequently results a serious apprehension neurosis. I cannot, as I have already intimated, agree with these men. The normal sex impulse can, in those in full possession of their faculties, be transmuted into higher things. This should be impressed with much emphasis upon the mind of every lad and every girl. But Freud and his school of Psychology have at least opened up a new field of thought which is being carefully worked by many conservative specialists, who, through dream analyses and association tests, are solving problems which have long remained unsolved. Sufficient for present purposes is the fact that for thousands of years man has indulged in sexual relations for the purpose of relieving nerve tension in-

cident to an accumulation within his body which excites a powerful psychic stimulus, quite as much as for the purpose of procreation; that for thousands of years he has lived a polygamous and communistic life, marriage becoming a necessity only after property interests became a factor in his social relations; and that his present monogamous life, compared with the far gone past, is yet an experiment which requires for its complete success certain moral attributes on his part, which the normal man and woman should possess, but which, unfortunately, are all too often lacking, and a reversion to type is not an infrequent consequence.

These well known biological facts enable us better to understand the causes which are responsible for the social evil and which we have to contend against in working for its extinction. For present purposes it matters but little when and how venereal diseases first infected the human race. It is quite enough for us to know that both gonorrhea and syphilis are here; that both are responsible for untold agony and unhappiness; and that both are in a large measure perpetuated by prostitution. If the prostitute could therefore be eliminated from our social system, it would go a long way toward the final suppression of the so-called specific diseases.

Unfortunately the prostitute herself is but the end product of that system, is now being exploited by organized bodies of the lowest and most vicious of men, and is more to be pitied than condemned. She is the lineal descendant of the Greek hetæræ who rose during the early development of the Athenian family, because of her superior artistic taste and knowledge, far above the general level of Ionic womanhood. The Spartan women, although the pairing family in a modified form was still extant, occupied a more highly respected place than those of other Greeks. As a matter of fact the Spartan women and Athenian hetæræ were the only Greek women of whom the ancients speak respectfully and whose remarks they considered worthy of notice. The women of the Ionic branch of Greek civilization, on the other hand, were kept in ignorance so far as learning was concerned, and were taught only to spin, weave and sew, with possibly a little reading and writing. The hetæræ therefore had their origin among the Ionians of Greece, and the fact that it was necessary to become an hetæra, which enabled her to acquire a certain standard of educa-

tion before she was respected by the men of her age, constitutes the severest denunciation of the Athenian civilization and the strongest possible argument in favor of the higher education of women and the right of suffrage. The surrender for money was at first a religious act which took place in the temple of the Goddess of Love and the money flowed largely into the treasury of the temple.

The prostitutes of our day are recruited from the underpaid work and shop girls, from the offspring of ill assorted marriages in the consummation of which the very fundamental principles of biology are ignored, from the victims of an inherited instinct which in an unguarded moment overwhelms its possessor, and from woman's own attitude toward the unfortunate girl after her shame is revealed to the world. While she still suffers from remorse of conscience, and there remains in her heart the love of home and life and children, she might be reached did society but do its full duty and not condemn her to wear during her remaining years the scarlet letter. She is ostracized, she is unable to obtain employment, and after she begins to experience the pangs of hunger and want she takes the course of least resistance and commercializes her body and soul. As time goes on, and her years are not many, in spite of rouge and paint and artificial adornment, her beauty and freshness vanish. She almost without exception becomes a victim of alcohol and narcotics and disease, and develops into the lowest of God's creatures. Driven to bay by the State, like her crawling prototype of the jungle, she turns upon the very society which pushed her into the vortex which sucked her down to death and destruction, and strikes, not with her fangs, but in a much more deadly way, by leaving along her devious track through life the spew and spawn of disease. And this vicious circle has continued until everywhere men and women who have at heart their brother's keeping are asking the question, "How can society best protect itself against this great social evil of prostitution and sexual perversion?"

Like thousands of other questions this one is more easily asked than answered. Its discussion has been characterized by more hypocrisy and silly sentimentality than has characterized any of the other great social problems. My own solution is foreshadowed by what I have already said. It is an underlying prin-

ciple in medicine that before any disease can be cured the cause must be removed. Then, too, we are living in an age of prophylactic medicine and it is always infinitely easier to prevent than to cure disease. Again, the more deeply seated a disease becomes the harder it is to eradicate, and the social evil has been with us for thousands of years. No system of cure, therefore, can be immediately successful. Nor can any system of cure which ignores those great biological facts which I have but barely outlined, expect to accomplish little more than mere palliation. Indeed, I am not sure that if every prostitute in the land were eliminated today it would be quite safe for your daughters and mine to walk alone the streets of our cities and our villages, so long have the unbridled passions of certain men run riot; and if they were eliminated, with the causes enumerated left operative, a new supply would be speedily forthcoming. As well try to stop the eruption of a seething volcano by closing its crater as to stop prostitution under existing conditions. If my language is pessimistic, it is that of a pessimism begot by years of study of this great question at close range. But a healthy pessimism is infinitely more desirable than is a contented optimism, which is entirely satisfied in the belief that all things, without individual or collective effort, will in the end come right.

My own theory of correction therefore naturally comprehends those methods which bring us into closer harmony with the great biological laws of Nature. But Nature's laws, though immutable, usually require time, often infinite time, before perfection is possible. The best that we of to-day can do in order to accomplish permanent results is to begin with the unborn child of tomorrow. Through evolution man has been given the chance to work out his own salvation and the salvation of his race. We of the present generation are paying the penalty of the sins of our forefathers, who may have been the third and fourth generation victims of their forefathers. But we of the present generation are in possession of knowledge which our forefathers knew not of and if we do not use our ten talents to the betterment of posterity we are shirking our responsibilities. And this brings us at once to a consideration of the new science of Eugenics, the progress of humanity through improved conditions in the relations of the sexes.

The time is all too short to permit but little more than reference to this great subject. For countless generations men and women have ignored the results obtained by the breeders of cattle and horses and sheep and dogs and cats and chickens, and all living things lower than man, by the process of careful selection—Nature's law. Mendel has even demonstrated the possibility by this process of reproducing colors in the feathers of birds and hair and eyes of animals with a scientific precision that makes of selection almost an exact science. Has the time not come when it is possible for intelligent men and women to profit by the experience of the stock breeder in bringing into the world human beings? What a race of Spartans we could produce were that law applied, say, for ten generations! The State makes it a misdemeanor to breed diseased horses and cattle and hogs, but it interferes in no way, except in exceptional instances, in the mating of men and women who are from tuberculous, cancerous, syphilitic or neurotic ancestry. This thought is not new, for more than fifty years ago Sir Francis Galton, in his work on "Heredity in Genius," showed how undesirables come into being and how they may be prohibited, and we of today are stamping his ideas with our approval. I am still old fashioned enough to believe that men and women should marry for love; but there is a vast difference between the love which is prompted by judgment and good sense and that which is based upon a silly sentimentality which ignores every known law of heredity. No legal or theologic formula can make a man and a woman one who by temperament and in physical attributes are as unlike as are virtue and lust. If, therefore, the State is going to proscribe the marriage of the victims of venereal disease, let it go farther and proscribe the marriage of the victims of all hereditary diseases, either physical or mental.

But the day when the State will presume to do this is a long way off, and in the meantime all that we of the medical profession can do to hasten its consummation is to continue our campaign of education and care to the best of our ability for the victims of the existing system. Our boys and girls, instead of being permitted to grow up in ignorance of all matters sexual, should receive instruction in the public schools, and in the home, in the function and care of the reproductive organs. Both should

know the penalty of digression from well known physiological laws. If the boy in the supreme conceit of his young manhood doubts the existence of a Creator, take him in to the hospital ward where he will see that "as a man soweth that shall he also reap" is Nature's if not God's law. Do not let him go out into the world ignorant of the world. Teach him that wherever he goes he will find on every hand all sorts of temptations, and that if he is to resist them he must possess moral stability, which he cannot have if his inhibitory centres are paralyzed by alcohol and narcotics. Let the girl be taught that her role in the reproductive act is infinitely more important than is that of the opposite sex. Point out to her the great biological fact which I have already called attention to that throughout the eons required for man's descent from the lower forms of life the female was unmolested by the male, unless by some token the aroused sexual instinct in the female was made manifest. I mean by this that, with the possible exception of the degenerate who will commit both murder and rape in order to appease his inordinate sexual excitement, the true gentlewoman will never be improperly approached by a man of even ordinary gentility, if she conceals from him her own physical longings.

So far as governmental control of prostitution is concerned, I do not believe that here in the United States we are yet in shape to make it wise to license the prostitute and place her under absolute police and medical surveillance. I do believe, however, that we have advanced to a point in our civilization when it is advisable to wipe out the red light district even though by so doing prostitution with its attending dangers is not lessened. The City of Cleveland is at the present time in the midst of such an experiment, and although prostitution is now carried on throughout the entire city and its suburbs, it keeps itself under cover and its grossness is in a measure done away with. This has been the experience of all cities and all municipalities during the last 300 years where the segregated district has been eliminated. Prostitution in the larger cities cannot be totally abolished. Education of the individual has really done more to overcome it than has legislation. I am inclined to believe that the German method comes as near being a practical one as is possible under existing conditions. There prostitution is recog-

nized as an evil utterly impossible to suppress and municipal attempts are made to control it. Norris in his classic work on "Gonorrhea in Women (1913)," says: "The method employed varies somewhat in the different cities. In general, the principle is somewhat as follows: A special police department has been organized to control prostitution. These police officers are known as the 'Sitten-Polizei,' and are divided into two groups—one to control the prostitutes, the other being the medical department. The work of the police department consists in a general supervision of the prostitutes. If a woman is seen soliciting in the streets she is questioned and cautioned. If in spite of this warning she is again found soliciting, she is brought to the police station, where she is again warned, and given a booklet containing information concerning institutions and organizations to which women may apply for assistance and medical aid, and describing the dangers of illicit intercourse, venereal diseases, and their method of spread, etc. If she is under age, notice is sent to her parents. If, despite these warnings, she persists in her course of life, she is examined, and if found to be diseased, *she is sent to a hospital, where she is detained until the period of her infectiousness is over.* If she is found to be free of disease, she is inscribed and given a book that is countersigned at each medical examination. No girl under 18 years of age is inscribed, although if she is found to be infected she may be sent to a hospital for treatment. These police wear plain clothes and perform their duty unostentatiously. If arrest is necessary, a closed cab is employed. The police records are available only to the 'Sitten-Polizei.' This department occupies separate buildings having private entrances, exits, and waiting rooms for the women. The entire proceedings are conducted with as little publicity as possible, and the women are well treated. The City of Berlin (2,500,000 population) is divided into twelve districts, each of which has a physician in charge. All first examinations are performed by a female physician, who receives 12,000 marks per annum; the physicians in charge each receive 24,000 marks. No woman can be inscribed who can show that she is earning money, however little, by means other than prostitution. The attitude of the 'Sitten-Polizei' is governed, even to the minutest details by printed rules. These rules make it easy for women to have their names removed from

the inscribed lists and police regulation if they show evidences of wishing to reform."

While this method is an attempt on the part of municipality to control prostitution, it does away with the serious objection of "licensed houses" which are looked upon by their patrons as medically inspected, and, therefore, comparatively safe from the dangers of venereal infection. *I believe that every diseased prostitute should be quarantined and kept under medical supervision until she is well.* Now that bacteriology has become almost an exact science, and the more recent tests for syphilis are fairly reliable, I believe that this method would prevent a large number of the infections which take place under the plan now existing in most cities of the United States.

One of the reasons why venereal diseases are not lessened when the segregated district is abolished is because of the inability to carry out those prophylactic measures which are now resorted in nearly all houses of prostitution. That radical prophylaxis is of the greatest value is proved by the experiments made by the medical officers of the U. S. S. Ranger.

But the theorist will doubtless insist that if the prostitute is quarantined when diseased, all men and women the victims of venereal disease should also be reported and quarantined. My answer is that the man who has to his horror and humiliation contracted syphilis or gonorrhea is not hypothecating his body, as does the prostitute, that he may live; that exposure in his case would mean ostracism and ruin, as it would also in the case of the unfortunate girl who indulges in intercourse for the first time and who has likewise contracted the disease; and that in both instances it is entirely possible to restore the victims to health and make of them useful members of society, which is almost impossible in the case of the hardened prostitute.

I have in another place (Chapter IV) gone into a detailed discussion of the dangers attending the marriage of the victims of gonorrhea without thorough and repeated examinations by a genito-urinary specialist. What is true of gonorrhea is also true of syphilis. Both diseases can be so cured as to make marriage relatively safe. It is up to the State to be sure that both diseases are cured before permitting its consummation. I myself took the initiative in having eliminated from the code of ethics of the

American Institute of Homœopathy, in order to protect the bride to be, obligation to keep secret knowledge obtained during professional duty when such secrecy may result in harm to others.

Finally, I want to call your attention to the probability of creating wrong impressions regarding man's constancy in our efforts to arouse a lethargic public to the dangers of venereal diseases. We must not forget that the physician's office is the catch basin into which is washed much of the sewage of humanity. We need an occasional view of the clear sky in order to keep us from becoming morbid and sick at heart. We are too apt to conclude that the exceptions prove the rule. The average American husband is a hard-working, home-loving man devoted to his wife and family, as a rule working all too hard that he may supply their wants and protect them from the sting of poverty when he is gone. Home to him is a sacred thing, and he stands ready to defend it, if needs be, with his life. It only requires some great crisis of life to demonstrate his chivalry and his manhood. I am quite ready to believe, too, that the percentage of gonorrheas in unmarried men is over-estimated. The actual conditions are bad enough, so do not let us represent them worse than they are. I believe, too, and most sincerely, in the chastity of the great majority of American wives and mothers. As a nation we are neither effete nor degenerate. On the contrary we are in the very vigor of our young statehood and one of the best indications of our stability and our strength is the manner in which we of the present generation have risen in our might in our endeavor to solve the great problem of the Social Evil.

CONCLUSIONS.

1. There is no disease in the whole domain of medicine, syphilis not excepted, which both directly and indirectly is causing as much suffering as does gonorrhea. Its importance cannot be over-estimated.

2. In its prophylaxis a campaign of open minded education is absolutely imperative. Education along these lines should, however, be conducted by the medical profession and not by those who are utterly ignorant of the evolution of the sexual instinct. A higher wage and better working conditions will go a long way toward limiting the number of prostitutes.

3. Under the existing circumstances the modified German method of surveillance should be adopted in our efforts to control prostitution.

4. *An effort should in all instances be made toward reforming young offenders before they "are lastingly disgraced" by arrest and open trial. If found diseased they should be committed to a hospital there to remain until cured. This should apply to all offenders, old as well as to young. To permit a prostitute who is known to be diseased to ply her trade, thereby disseminating veneral disease, is a blot upon our civilization.*

CHAPTER XII.

REFERRED PAIN.

CASE 1.—Patient æt. 36; one child 20 months old. Miscarriage ten weeks before I saw her in 1902, after which she suffered most excruciating pain in the region of the left hip joint. She was a very large woman, weighing at least 200 pounds, and of a nervous temperament. Her domestic relations were not happy and her friends feared that her mind would give way. The pain in the hip was of the most excruciating character with all the subjective symptoms of suppuration. Twice chloroform was administered in order to locate the cause of the trouble, but, even under anesthesia, no local evidence of the disease could be found in or about the hip. Roentography was at that time not in vogue. The only pelvic lesion that could be detected was an apparent cirrhosis of the ovaries. An exploratory puncture was made into the hip with negative results. The pain was so intense that only by the administration of large doses of narcotics could it be controlled.

On November 18, 1902, I made an exploratory incision and found both ovaries little degenerated masses, as hard as cartilage, and resembling in appearance miniature brains. Both ovaries were tied off. The appendix was thickened and closely adherent to the cecum and it was therefore removed in the usual way.

The patient was relieved from her pain almost as soon as she recovered from the anesthesia and has remained perfectly well since.

In order further to emphasize the necessity of care in determining the cause of deep seated or obscure pain in any part of the body I will take from my record two additional cases:

CASE 2.—Patient æt. 36. For more than ten years she had suffered from intense pain radiating from the back and the region of the kidneys down into the legs, locating itself in the knees and hips. It was a pain of most distressing character, almost completely prostrating her, making it difficult for her to keep about and many times forcing her to bed. It was aggravated by nervous excitement and by being on her feet, almost

entirely disappearing at night. She, too, was a very large heavy woman, her weight having rapidly increased during the last three years, being at the time of operation 225 pounds. Except when suffering, she looked perfectly well and was full blooded and strong. During an attack the face was white, especially about the mouth. There was not much indigestion and the bowels were regular. There was a slight leucorrhea with some endometritis, but this was in no way distressing. She was so large and heavy that a satisfactory bimanual examination without anesthesia was utterly impossible. An examination of a specimen of 24 hours' urine resulted as follows:

Transparency—opaque.
Color—amber.
Reaction—acid.
Specific gravity—1024.
Sediment—flocculent.
Urea—2.5 per cent.; 10.78 grs. to oz.
Albumen—trace.
Sugar—negative.

MICROSCOPICAL.

Transitional epithelium.
Pus cells.
Red blood cells.
Calcium oxalate crystals.

Subsequently I drew the urine from each kidney with the following resultant examination:

MICROSCOPICAL.

Right kidney:
Very few epithelial cells.
Calcium oxalate crystals.
A few bacteria.

Left kidney:
A few transitional epithelial cells.
A very few calcium oxalate crystals.
Many bacteria.

The first examination of the urine made me suspicious of renal calculus and I thought possibly the pain in the limb was referred from the kidney. The patient had been under the treat-

ment of many physicians for many things, all, however, pronouncing her condition rheumatic. Treatment directed toward the rheumatism had benefited her but slightly. Her condition became so aggravated that she begged for relief of some sort. Accordingly on January 27, 1909, I opened the abdomen through an incision long enough to admit the entire hand.

The abdominal walls were very thick and, after exploring both kidneys and the gall-bladder area I looked for the appendix. It required not a little effort to locate it as it was post-cecal and the cecum was delivered with a good deal of difficulty, owing to the large amount of mesenteric fat. I first freed the cecal end of the appendix, after which I caught this in two forceps, cut it off and inverted the stump in the usual way. After cauterizing the distal end of the stump I proceeded to take care of it. For about four inches I could trace it as a hard cord-like mass extending well up under the liver. While pulling upon it, after the proximal end had been freed, it finally slipped from its subperitoneal bed as would a large angle worm when pulled from clay. It was seven inches in length, was full of muco-purulent matter and contained three shot-like masses, which proved to be grape seeds. The ovaries were then explored and were found to be small, hard and very much contracted. The tubes were thickened and there was a varicocele on the right side of a most marked character. Both ovaries and tubes were removed and the small undersized uterus suspended to the peritoneum by the Kelly method. In removing the ovaries and tubes I did not tie *en masse,* but, after securing the individual vessels, whipped the peritoneal edges of the broad ligament over with silk. The abdomen, because of its thickness, was very carefully closed with two layers of catgut, interrupted silkworm gut stitches three-fourths of an inch apart, and a buttonhole skin stitch. Ether was used for anesthesia.

The patient convalesced ideally from the operation and had but little pain for the first two weeks; then because of some misunderstanding in her hospital arrangements she passed into a nervous state which prostrated her for nearly three weeks. From this she gradually recovered until at this writing she is free from pain and is happy and well.

Case 3.—Patient æt. 32; she came to me in the spring of 1905

from a prominent Toledo physician, who stated that she had had glycosuria and, when he saw her, was suffering from tachycardia. He also said that she might have had a neuritis or neuronitis. An eminent Chicago neurologist had reported as follows: "I saw Miss ———, April 1, 1904. The history was very confusing, embracing a number of symptoms which apparently were purely functional and also showing evidence of some sort of gastro-intestinal disturbance which must have been rather severe. On the strength of the pain and weakness in the legs, non-involvement of the sphincters, and weakness of the knee jerks, with abundant sugar in the urine, I concluded that the case was probably one of neuritis with a considerable hysterical element added. When I saw her the Achilles jerks were pretty good, but the knee jerks could be elicited only by reinforcement. The gait was characteristic of hysteria rather than of organic disease, and with some encouragement and some suggestive treatment she was able to trot up and down my office, holding to my hand—a thing that seemed absolutely impossible when she first came into the room."

Before coming to me Dr. Stella Stevens Bradford, of Montclair, New Jersey, examined her and went over the case most thoroughly. Because of its completeness I shall quote almost entire from her history of the case.*

Past History.—She was well as a child, except for "malaria," which was common in the city where she lived. She taught from the age of nineteen to that of twenty-one, when she was obliged to stop because of pain in her back and lumbar region, which was increased by standing. She suffered also at that time from insomnia. Eight years ago she had an attack of "appendicitis" or "oophoritis;" duration six weeks, with severe localized pain and high fever. She has been conscious of a tender spot in her right side ever since. Menses began at 16; regular; duration two to five days; flow moderate; never profuse; accompanied by pain which has never been severe; is worse now than formerly, extending from the back around through the iliac and hypogastric regions, and is usually worse on the right side. Her nervous symptoms are worse during period. Leucorrheal discharge is infrequent and hardly appreciable.

**Medical Record*, July 21, 1906.

Present History.—For three years she worked very hard as librarian, studying for examination at the same time and paying no attention to sleep or exercise. Feeling "run down" she took arsenic and strychnin for a long time. She felt weak and noticed that her legs trembled but did not stop work until forced to do so by an attack of diarrhea, which was painless but lasted several weeks and completely exhausted her strength. This was followed by pain or a "clutching sensation," beginning in the back and radiating at first down the anterior aspect of the thighs. The pain later involved the whole of the lower extremities, especially the knees, which were held flexed. It was bilateral, but the patient always regarded the left leg as the worse. The weakness in both lower extremities was extreme but the power of motion was never wholly lost. The patient remained in bed five months because of this pain and weakness, receiving some electrical treatment. For about two years, *i. e.,* from the time she stopped work till I saw her in June, 1905, there had been very little improvement. The pain was still almost constant, involving back lumbar region, thighs, legs and ankles. It was superficial and burning, or deep, dull and aching in character and sometimes accompanied by sharp, stabbing sensations. It was often associated with a feeling of cold. It was worse after walking, when it was accompanied by stiffness and weakness; it often interfered with sleep but was relieved by the recumbent position. X-ray picture showed stone in left kidney pelvis.

Other symptoms were frequent urination, especially at night, not accompanied by pain or burning; pain in the back of the neck, and extreme exhaustion after any effort, as in reading or sewing or after talking with several people. She spoke often of "waves of weakness" which passed over her. Her appetite was fair. She had no indigestion, and her bowels were regular, the stools, however, being sometimes ribbon-like.

Her mental condition was excellent, and her memory good, but she was inclined to be apprehensive, especially at night and in crowds, and to be discouraged about her condition. Her sleep was fair but broken by pain.

Physical Examination.—Complexion, dark and said to be growing darker. Pale with dark circles under eyes. Expression anxious, worn, hunted. Well nourished, flesh firm. Slightly en-

larged thyroid, no exophthalmos. Tongue normal. Heart, slightly accentuated second aortic sound, otherwise normal. Pulse medium in force and tension, slightly irregular in rhythm, varying in rate from 96 to 108. Lungs negative except for roughened breathing and increased voice sounds at apices. Spine, marked prominence of first two lumbar vertebræ; no tenderness on pressure of any kind, no rigidity, no disturbances of sensation on back. Lower extremities white, especially the feet, with tendency to cyanotic mottling; always cold, though the examinations were made in June and July. No pulsation was obtained in dorsalis pedis nor in posterior tibial artery of either side though examinations were many times repeated, except once, and that once was after a two days' rest in bed. Then the pulsation though obtainable was weak. No atrophy. Abdomen, no rigidity. Liver normal in size. Both kidneys palpable, the right movable; neither tender. Tenderness, not constant in region of appendix, on deep pressure. Pelvic examination, prepuce free from clitoris; transverse contractions in labia minora. No discharge. Cervix in normal horizontal plane, hard, directed somewhat anteriorly. Uterus, small, not infantile, retroverted, and sharply retroflexed. Ovaries large, tender, especially the right, and prolapsed. Uterus movable but not completely replaceable.

"*Neurological Examination.*—Cranial nerves negative. Patellar reflexes obtained, variable, the left usually the stronger; reinforcement usually but not always necessary. Achilles and plantar reflexes normal and equal. No loss of motor power. No disturbance of sensation. No ataxia. No disturbance of deep sensibility. No Romberg. Gait unsteady, weak. Urine, twenty-four-hour amount, 50 to 70 ounces; pale amber, cloudy, abundant flocculent sediment, faintly acid, specific gravity 1010 to 1016, trace of albumin, no sugar. Microscopical examination: Very numerous pus cells, few epithelial cells, chiefly caudate. Repeated examinations gave the same results, and a catheterized specimen confirmed them. No tubercle bacilli found. I have not succeeded in getting the report of former urine examinations from the physicians, but the patient's own statement, accurate in other respects, was to the effect that there had been sugar, and also pus which was attributed to vaginal discharge. Blood, hemoglobin, 80 per cent.; red blood cells, 4,368,000; white blood cells, 9,000; poly-

nuclears, 65 per cent.; small mononuclears, 5 per cent.; eosinophiles, 5 per cent."

It will be noted from the foregoing history that the salient points presented were nervous exhaustion with pain and weakness of the lower extremities, and in the examination movable right kidney, pyuria, retroversion of the uterus and defective circulation of the lower extremities.

I operated this case on Thursday, September 7, 1905. I felt convinced that the sharp retroflexion of the uterus and the diseased appendix were responsible for no little trouble. I, therefore, first opened the abdomen and fastened the small, almost infantile uterus in front by ventral fixation, the round ligaments being so small and atrophied that I felt it would not do to rely upon them to hold the organ in place. The appendix was hard, indurated and intimately adherent to the cecum and was, therefore, removed in the usual way. The left kidney was explored and the stone readily felt within its pelvis. The kidney, however, was a mere cyst, the pancreas being closely adherent to it, so that it was with difficulty that the pancreas was separated from it. After the abdomen was closed the kidney was exposed through the usual posterior incision. The spleen was enlarged, crowding hard down against the kidney. The kidney was closely adherent to the surrounding structures, there having been evidently at some time a severe perinephric inflammation. In removing the kidney I injured the pancreas to such an extent that the shock was marked and the patient died on the third day with a temperature which, during the first twenty-four hours, was subnormal and which was but slightly above the normal at the time of her death. A post mortem examination showed beginning fat necrosis of the omentum as a result of the injury to the pancreas. The question naturally arises as to whether or not the pancreatic implication was not responsible for the presence of sugar in the urine before I saw the case.

The stone within the kidney was brownish-gray, irregular in shape, but with no sharp points, about ¾x⅜ of an inch in its greatest diameters and resembling volcanic tufa in surface and consistency.

Dr. Bradford, to whom I reported the surgical work and the post-mortem findings, concludes her article, as follows:

"1. The irritation in the kidney or pancreas or both caused the so-called referred pain of Head—many years ago described by Dana under the term 'transferred pain'—the pain being superficial, burning and limited to the back, abdomen and upper thighs.

"2. The irritation in the kidney or pancreas or both brought about reflexly a spasm of the vasomotor nerves, derived from the lumbar and upper sacral segments, causing contraction of the blood vessels of the lower extremities. The resulting ischemia in the nerve endings was the cause of the weakness."

The possibility that an ischemia, due to direct pressure on the large blood vessels, had caused indirect nerve changes was ruled out because there was no such pressure. Whether there was at any time an actual neuritis it is impossible to determine.

These three cases are presented as typical instances of "referred" pain. The distinction between a "referred" or a "transferred" and a "reflex" pain must be kept in mind. The latter term implies the conveyance of an afferent (sensory) impression to a center which in turn sends out an efferent (motor) impression to the part or parts of the body supplied by the efferent nerve. Whereas a "transferred" pain is one perceived by the sensorium and is referred, not to its real source of origin, but to an entirely different portion of the periphery because of the existence of indirect sensory connections along which the impression travels. Unfortunately the last patient died before it was possible to determine whether or not the removal of the lesions found would have afforded her permanent relief. I introduce it with the first two cases because of the interesting way in which Dr. Bradford has recorded the case. The urine had been drawn separately from each ureter. The evidence obtained from the examination showed that the kidney lesion was limited to the left side.

I have noted many times that patients, even though under 35 years of age, the victims of cirrhotic ovaries, become large, heavy and neurasthenic. I do not believe that we have given sufficient attention to cirrhotic ovaries as a causative factor in the production of either "reflex" or "referred" pain.

Remarks.—The medical profession is divided into two classes —general practitioners and specialists. It is unfortunate that

the general practitioner or internist too often ignores or overlooks reflex causes responsible for untold suffering. But it is equally unfortunate that the specialist, often without any extended experience in internal medicine, over-emphasizes the importance of local lesions, ignoring entirely the constitutional cause which may be responsible for the local condition. As regards gynecologists there are those who relegate to the sexual system of the female, even though ever so slightly diseased, the power to affect the whole organism in a morbid way; and accordingly the only way in which the symptoms resulting therefrom can be permanently relieved is by curing the local lesion.

The internist, on the other hand, is too much inclined to attribute the local trouble to systemic causes. He believes that the sexual organs exert but little influence if any on the general organism and that by directing treatment to the general or constitutional symptoms the patient can be restored to health in most instances without local interference of any kind.

The foregoing theories are the natural result of looking upon the female sexual organs as anatomical entities instead of but part of a series which in their totality constitute the organism. No restricted pathology has been or will be able to survive the rapid strides of modern medicine. The physician who today ignores local lesions in the treatment of gynecological diseases is quite as culpable as is he who would treat an amenorrhea due to phthisis or chlorosis by stimulating the uterus. We may not always be able to determine the order, but symptoms occur in pathological succession and effects never precede their causes.

From the temporary organs named Wölffian bodies the reproductive and urinary organs are developed by a process of gradual evolution. Organs developed from a common primordial structure possess nerve communications whereby impressions originating in one may be transmitted to others of a like structural evolution. There is therefore a perpetuation of direct nerve influence between the sexual and the urinary organs. Indeed, there is a nervous and vascular connection existing between all of the pelvic organs. The same system of vessels and nerves supplies largely the genital organs from the ovaries to the perineum and these several organs are presided over by the same genito-spinal center They participate alike in all phy-

siological requirements—ovulation, menstruation, conception, pregnancy, parturition, and involution. We have already seen in Chapter IX that, when one organ is capable of impressing a near or remote organ or parts in a physiological way, a pathological process involving that organ may implicate in like manner the same near or remote organ or parts.

Thus we see that derangement of any organ within the pelvis may involve all; or acting through the genito-spinal center may exert a powerful influence upon the whole organism. Any system of uterine pathology, therefore, which ignores the unity of the pelvic organs, and of the entire organism, must necessarily be incomplete.

It is not difficult to understand, with the foregoing facts in mind, how reflex symptoms are induced when there are to be found in the pelvis discoverable pathological changes. A long continued hyperemia, for instance, if of the hypertrophic type, may cause fungoid degeneration of the uterine mucous membrane with consequent hemorrhage; or, fibroid tumors. If, on the other hand, the hyperemia is of the passive, venous or congestive type resulting from some obstruction to the return flow of blood from the uterus, there results a fibrino-plastic effusion which in time becomes organized; this contracts and cuts off the capillary circulation of the parts involved. The natural structures of the uterus are supplanted by the connective tissue thus formed with resulting condensation and induration, (the hyperplasia of Thomas). By way of illustration, a cervical laceration may affect the organism in one of three ways: (a) primarily in a purely reflex way because of impingement of terminal nerve fibres distributed to the cervix in the cicatricial deposit present; (b) in a purely mechanical way because of the hyperemia and congestion caused by the plug of cicatricial tissue interfering with the return flow of blood from the uterus; and (c) by the depravity of nutrition finally induced, if the irritation which was reflected to the spinal column be transmitted from the central nervous system to the stomach and the gastro-intestinal canal, thus giving rise to autointoxication, anemia, chlorosis, etc.

The more frequent locations of referred pain are: In diseases of the diaphragm or colon, the left supra-clavicular

region; in pseudo-angina of gastric origin, the mid-sternal region, overlapping the left mammary gland; in uterine disease the left nipple and the sacral and lumbar area of the spine; in hip-joint disease the inner side of the knee; in ovarian irritation, the outer anterior surface of the corresponding thigh; in splenitis a small point at or near the apex of the left scapula; in involvement of the broad ligaments and ovaries, the outer and upper aspect of the corresponding thigh; in lithemia and neurasthenia, the whole cervical area or the greater portion of the spine (sometimes the posterior and outer aspect of heel); in disease of the liver, beneath the lower aspect of the right scapula; in disease of the stomach, the lower inter-scapular area of the spine; in involvement of the transverse colon, the upper lumbar area and the small of the back.

It is not, on the other hand, so easy to explain those cases where the genital organs are exquisitely sensitive and yet where the most careful examination fails to reveal the evidence of disease. Congestion, inflammation, abrasion, displacement—all are absent—and yet there is pain and sensitiveness in one or all of the pelvic organs, and reflex symptoms are innumerable. The form of dysmenorrhea known as "neuralgic" frequently occurs in connection with these symptoms. The older authorities called a uterus thus affected "irritable." The term is quite as comprehensive as is "neurosis." Both describe a condition without defining its cause and both are used to hide our ignorance. Patients rarely if ever die when thus affected and if the condition has a pathology it is so chameleon-like in character that it has not yet been defined. Care must be observed in these cases not to do unnecessary surgical work.

It is equally important for us as gynecologists to know that local disease of the female pelvic organs is frequently caused by systemic disturbances. Let us see how this is possible.

Since nutrition may be affected from many causes, so-called nervous prostration frequently occurs when the pelvic organs are perfectly healthy. This condition is nearly always attended with circulatory disturbances. We know that the vaso-motor system presides over the circulation. It dilates and contracts the caliber of the blood vessels, and wear and repair depend upon the

proper adjustment of this function. If the equilibrium of the ebb and flow is disturbed, local anemia or local hyperemia takes place. The cheeks are affected in this way when they become pale as a result of fear, or when they become reddened as a result of shame. This is physiological. The flushes of heat so frequently present during the climacteric period are other examples of vaso-motor disturbance which border upon the pathological.

If this equilibrium of the circulation is destroyed from any cause whatever, the internal organs are as often affected as is the skin. Such a cause may be malnutrition, nervous shock, or indeed anything that profoundly impresses the nervous system. If the brain is involved, either insomnia or drowsiness occurs, depending upon whether the brain is hyperemic or anemic. Flatulence, gastralgia, and nervous dyspepsia result when the stomach is similarly affected. The womb and the ovaries are oftener implicated than any of the internal organs, and become hyperemic or anemic, as the case may be. If the former, congestion with all its concomitant symptoms,—menorrhagia, leucorrhea, tenderness, etc.—occurs without any local cause; if the latter, amenorrhea or scant menstruation. Hyperemia, congestion or anemia of the uterus is likewise frequently caused by those general or organic diseases of the body which tend either to deprave the blood or to obstruct the pelvic circulation in a mechanical way. Diseases of the lungs, liver and heart may congest the pelvic organs mechanically. Menorrhagia, amenorrhea, and ovarian irritation, or any other pelvic lesion, may therefore be due to general as well as to local causes.

But even with the full consciousness of the power of local disease within the female pelvis to affect the general organism; or conversely, the ability of general diseases to produce local disease, the physician will frequently fail, unless he takes into consideration that which, for want of a better name, may be termed "temperament" and "constitutional bias." One patient, for instance, will without suffering the least inconvenience go through life with a pelvic lesion which in another would give rise to the most distressing symptoms. It is this fact which is responsible for much of the confusion which now prevails regarding the significance of many pelvic affections. The constitutional bias pre-

sents itself in devious and multitudinous ways. Any one of the several forms of "dyscrasiæ" may retard the convalescence. Such are tuberculosis, scrofulosis, syphilis, Bright's disease, the various blood diseases, malaria, etc.

Innumerable symptoms which have long been defined by that now indefinite term "scrofulosis," and which we now know usually means "tuberculosis," are legion. It, too, has long served as a convenient name under which to conceal much ignorance, but no one who has long practiced medicine in its various departments can well ignore the fact that there often exists in a given case an obscure element which perpetuates indefinitely local lesions, especially the catarrhal diseases of the genital tract, in spite of our best directed local treatment. In whatever form this element presents itself it can be reached only by proper constitutional treatment.

That the foregoing theory regarding diatheses or dyscrasias, which was especially emphasized by Hahnemann, is now receiving attention by some of the recent and most prominent writers of the older school is manifest by the following quotation from Schmidt (*Tumors of Abdominal Viscera,* pg. 46). Schmidt, who is Professor of Medicine in the University of Innesbruck, says: "The gross errors of the old humoral pathology in regard to the genesis of causes have led to a reaction which in its denial of the influences of dyscrasias probably goes beyond the bounds of truth."

It is then clearly the duty of the physician in dealing with the many gynecological affections to differentiate cause from effect when it is possible so to do, and to conduct his treatment accordingly.

CONCLUSIONS.

1. The cause of referred pain, which is much more common than is ordinarily supposed, requires on the part of the physician most careful observation for its determination.

2. Successful medical treatment is impossible so long as the cause continues operative.

3. Care must be observed not to confuse referred pain with reflex pain.

4. Not infrequently the surgeon fails to relieve the suffering incident to referred pain in women because of the fact that

he ignores minor lesions of the sexual organs, which, in one whose nervous system is impressionable, may give rise to intense suffering.

5. In looking for causes the constitutional symptoms should never be ignored, for not infrequently the local conditions are due to constitutional disease.

6. It is under all circumstances necessary for the physician, if he is to treat his cases intelligently, not to ignore the temperament and constitutional bias of his patients and to prescribe, when such bias exists, proper treatment, which comprehends the correction of the patient's habits, the selection of a suitable diet, close observation of the eliminative organs and proper internal medication.

CHAPTER XIII.

SOME OF THE POST-OPERATIVE FACTORS IN WOMEN INTERFERING WITH CONVALESCENCE.

Case 1.—Patient, æt. 38, referred by Dr. Barton-Peeke, of Cleveland. She is a very large, well formed woman who, some years ago, had her uterus fastened up by a surgeon in New Jersey for a distressing "bearing down sensation," which caused her a great deal of inconvenience. This operation relieved her for two years, when she began to experience the same sensation, though much aggravated. She is a business woman and has to be on her feet a great deal and her condition is becoming intolerable. At the present time the uterus is in normal position, but evidently there is serious periuterine trouble of an inflammatory nature. The uterus is larger than it should be, is immobile and the parts are exceedingly sensitive. The urine contains many oxalate of lime crystals. She is now so much of an invalid that she is becoming incapacitated as a bread winner and comes to us for relief.

I shall proceed with her case as I should had she never been operated. I shall dilate the uterus, apply the curette, medicate the endometrium with *Iodin* and pack the uterus carefully. I shall next dilate the rectum and overcome the adhesions of the clitoris which are present. I shall then proceed to open the abdomen. I find the omentum attached to the uterus and to the pelvic inlet, as well as to the anterior abdominal wall, the adhesions being very firm. The ovaries are in an inflammatory bed and it is with a good deal of difficulty that I am able to deliver them, diseased and distorted. In view of her previous experience, I hardly dare leave her ovaries behind, and shall therefore tie them off with catgut. The previous operation for holding the uterus in front was evidently the Gilliam operation, the ligaments not being crossed in front of the abdominal incision. The broad ligaments are so relaxed that I shall resort to a modified Webster-Baldy operation for suspending the uterus by stitching them together and to the posterior aspect of the uterus.

Although the appendix is not badly diseased I shall remove it and close the abdomen in the usual way.

It is not difficult to understand why this patient did not get well after her first operation. I have no criticism to offer on the work done by the first surgeon. It is more than probable that his work fulfilled all indications existing at the time of that operation. The patient was unfortunate enough to become infected in some way, either immediately after the operation or later, with resulting inflammation and its sequelæ. I am not even sure that the work I have done will give her entire relief. She is of a temperament which makes surgical work, no matter how thoroughly done, exceedingly problematical so far as getting her entirely well is concerned. I mean by this that she has always been neurotic; that she suffers from sexual hyperesthesia; that she has oxaluria; and that she is by nature exceedingly introspective. I have therefore held out to her a guarded prognosis.*

In this connection I desire to present, from my records, the histories of two other cases in which I have utterly failed to bring about the desired relief, and which will serve as a text for the subject under consideration.

Miss V. is 45 years old. She came to me in May of 1913 a complete nervous wreck. She complained of a great deal of distress and dragging down in the small of the back. She had menorrhagia and general enteroptosis. Roentenographs showed the stomach well below the umbilicus and the transverse colon low in the pelvis. Examination revealed a uterus the size of the double fist, containing a bleeding fibroid. The most distressing of all symptoms from which she suffered was a peculiar "gurgling" sensation in the left side in the region of the sigmoid.

On May 21, 1913, I opened the abdomen, shortened the gastro-colonic omentum by folding it upon itself with catgut, shortened the gastro-hepatic omentum and stitched the stomach to the falciform ligament. I then removed a short, thick, very hard appendix. The ovaries and tubes were both adherent and cirrhotic, so that they were removed with the fundus of the uterus. I then tacked the cæcal portion of the colon to the peritoneal

*This patient ultimately, after a stormy convalescence, was entirely relieved of her distressing symptoms.—J. C. W.

area in such a way as to prevent its prolapse. The very long abdominal incision was closed in the usual way. The operation was completed by thoroughly dilating the rectum and overcoming adhesions of the clitoris. Ether anesthesia was administered through the Gwathmey apparatus.

So far as the immediate convalescence was concerned, it was ideal. I did not permit the patient to sit up until the end of the third week. She left the hospital at the end of the fourth week. She is, however, at this time not much improved. She is exceedingly neurotic, introspective and melancholic. Her urine contains many oxalate crystals, she is passing a low per cent. of urea, and she is so despondent that I sometimes fear self inflicted injury.

Case 3.—This patient was referred to me by Dr. J. Richey Horner. She was at the time of the operation, three years ago, 34 years of age. She, too, was an exceedingly nervous, neurotic patient with a history of spinal trouble. The patient admitted that she had long masturbated. A favorable opportunity for marriage presented itself when she was 24 years of age, but because of the serious objection of her father, who was elderly and widowered, this engagement was broken with a good deal of mental shock. She had, when she was referred to me, a very distressing dysmenorrhea with obstinate constipation, which dated back to an attack of what one of her physicians called "typhoid fever," but which from her history I believe to have been appendicitis. Since that time she has had several sharp attacks of appendicitis, and has suffered from a constant pain in the right ovarian region, which was much worse during the three menstrual periods preceding the surgical work done on November 18, 1912.

On that date I did a divulsion and a curettage, applied *Iodin* to the endometrium, overcame the slight adhesions of the hypertrophied clitoris, dilated the rectum very thoroughly for the purpose of overcoming the constipation, opened the abdomen and removed a long thickened appendix in the usual way. Both ovaries were very much enlarged and cystic and both tubes distended, with their fimbriated ostea completely closed. The fundus was directed backward so that after removing the ovaries and tubes I suspended the fundus by the Kelly method.

At this writing this patient is very much better, but far from

well. Her home life is not a happy one which has much to do with her stormy convalescence. She still suffers from sexual hyperesthesia, she has oxaluria and the vasomotor disturbances are most distressing. I think that she will eventually entirely recover, but I am not proud of the results thus far obtained.

Remarks.—The foregoing cases emphasize what was said in the last chapter regarding the necessity of always taking into consideration, from a prognostic standpoint, the patient's temperament and constitutional bias. I think that every surgeon, especially every abdominal surgeon of extended experience, must at sometime have asked himself the question: "Why is it that a certain per cent. of cases in which the indications for surgical work were clearly defined and which convalesced ideally so far as immediate results were concerned, do not get permanently well and suffer for a term of months or years from nervous manifestations?" The question is of the utmost significance and should receive due and careful consideration. It is not difficult to understand that, if one or more of the lesions from which the patient is suffering are left undisturbed, she will not get permanently well. I believe that too often minor lesions are overlooked in gynecological cases, especially by the general surgeon, or are considered of little or no importance as symptom-producing factors. This is particularly true if, after a retrodisplaced uterus is overcome and the diseased appendages are removed, cicatricial tissue is left in the cervix, the pelvic floor is left relaxed and lesions of the rectum go uncorrected. A woman thus afflicted may get better after the major work is done, but she does not get well. She should have been curetted, particularly if she was losing too much blood or there was leucorrhea; she should have had a trachelorrhaphy because, as we have seen, a plug of cicatricial tissue in the cervix is always a menace as regards both its purely local and its remote effects. The retrodisplaced uterus, which is always lower than it should be, ought to have, besides the support given it from above, the support of a corrected pelvic floor if the latter is relaxed. I believe, too, that a good many surgeons are failing to do all for their patients that should be done because of their neglect of proper rectal work. The latter statement is emphatically true if the patient is constipated and there are present vasomotor dis-

turbances giving rise to cold hands and cold feet, which simply means that there is a vasomotor spasm of the blood vessels of the extremities.

I once made a statement that 98 per cent. of my income is derived from the 98 per cent. of cases who get well and go about their business happy and contented; and that 98 per cent. of my worry is derived from the remaining two per cent. which hang fire in spite of the best directed efforts of myself and my confreres. This statement may seem exaggerated, but I believe it is one that will be endorsed by most operators of extensive experience. I have never yet, in a medical meeting, heard a man running a sanatorium endorse radical surgical work very enthusiastically. This because the larger number of the two per cent. of failures finally find their way into sanatoria and the men or women who have to deal with them naturally form an erroneous opinion regarding the necessity of much of the surgical work that is being done, and the ultimate outcome of the same. I think that, at the present time, because of the greater conservation of the ovaries, a smaller proportion of these troublesome post-operative nervous cases are to be found.

The patients who have given me the greatest trouble, and who remain invalids in spite of my best directed efforts, are women who are neurasthenics to start with, and particularly those who are made neurasthenic by disease of the ovaries acting in a reflex way upon the gastrointestinal canal, which in turn gives rise to indigestion, autointoxication and disturbance of the urinary secretions and excretions. The psychic factor is always of the greatest importance. My observation leads me to believe that each physician, because of individual characteristics, attracts to himself patients of peculiar temperament. This observation, from the standpoint of psychology, is interesting and is well worthy of more consideration than it has received. Thus Dr. A. does not believe in operations if they can possibly be avoided. His clientele is made up largely of people who are in sympathy with him in his teachings and practice. It is composed largely of nervous men and hysterical women who put off necessary surgical work until their impressionable nervous systems are profoundly perturbed and upset by the shock incident to last resort surgery. Dr. B., on the other hand, is self

assertive, and by his assurance and personal magnetism transmits to his patients a spirit of hopefulness and confidence which goes a long way toward inspiring them in the belief that the suggested surgical work will make them well. Having absolute confidence in him they believe that what he tells them is right and for the best; they have faith in the surgeon whom he selects; they go into the operation with hopefulness and trust; they convalesce ideally, and do not, after the operation, suffer from symptoms of a distressing character because they are not looking for them. I have so often had occasion to observe the similarity in the mental characteristics of patients coming from certain physicians that I have reached a point where I always expect trouble in operating upon those cases whose medical advisers are not in harmony with the dicta of modern surgery.

I shall ignore, too, at this time, the subject of thrombus following surgical work, which is all important and which is often most distressing. This complication is one quite as liable to occur in those of normal psychic habits as in those of lessened nervous stability.

The symptoms which have given me the most trouble to control after the ovaries have been removed are insomnia, nervousness, indigestion, constipation, vasomotor disturbances and hysteria. Where these several symptoms occur it will be found always that the patient presents a remarkably impressionable nervous system. As a girl she was nervous and had more than the ordinary amount of trouble at puberty. During her menstrual periods she had dysmenorrhea, frequently of the neuralgic type; during gestation, if she was so fortunate as to become pregnant, she suffered intolerably from hyperemesis and nervous disturbance; her married relations were painful and unsatisfactory; her urine was variable in quantity and quality, but nearly always of low specific gravity with a low per cent. of urea, and not infrequently contained indican and calcium oxalate crystals. Her muscles were flabby and unstable. This woman was nervous before she had organic changes; she became more so because of the advent of pelvic lesions, which possibly were not sufficiently severe to disturb a woman of normal temperament and resistance, and she does not get well after they have been entirely overcome. The surgeon treats cases of this kind until

he becomes desperate and then turns them over to the neurologist or permits them to drift in the various sanatoria of the country. They will get well in time—possibly soon after they fall in the hands of the Christian Scientist or the Mental Healer.

The practical question which suggests itself from the foregoing discussion is, how can the distressing disturbances which I have described be prevented; and if they occur, how can we cure them, and lift the patient from a state of invalidism to one of robustness? I am frank to say that in some of the cases which I have met with my best directed efforts have been futile.

The sexual factor is of the utmost importance. Observation leads me to believe that there are few extremely nervous women whose sexual functions are perfectly normal. They are either sexually hyperesthetic or sexually anesthetic. A woman who is sexually hyperesthetic is constantly excited but fails, because of some peculiar break in her nervous mechanism, to experience the sexual orgasm, and, therefore, is not gratified by intercourse, which leaves her in a nervous, hysterical state. The patient who is sexually anesthetic has practically no pleasurable feeling during congress, the mucous membranes being apparently dead so far as sensation is concerned. Sexual intercourse gives her no pleasure, and is often repulsive, so that she, too, is left in a nervous state as a result of the act. I freely admit that I do not know how to satisfactorily handle these cases. The condition is many times psychic, and the treatment should be directed accordingly; often it is the result of early and persistent masturbation. I have not infrequently referred these patients to the disciples of Freud, but I cannot say that the results have been encouraging. In 1895, Freud, of Vienna, proved to his own satisfaction at least that the convenient appellation "Neurasthenia" was only a mask for our inability to differentiate between cases of hysterical obsession, incipient dementia precox, early stages of paranoia, beginning paralysis, etc., and true neurasthenia. His psycho-analytical labors convinced him that the larger number of cases who were supposed to be suffering from neurasthenia were really afflicted with a disease which, by reason of a definite etiology, mechanism and symptomatology constituted an independent entity, which he called "Angstneurose" or "Apprehension Neurosis." Under the head of general irritability, Freud includes conditions

which indicate either an accumulation of excitement or an inability to endure such an accumulation. This hyper-irritability manifests itself as an excessive reaction to all internal or external stimuli, the commonest being excessive sensitiveness to sounds. I have in my Text-book under the head of "Hystero Neuroses" given several very striking clinical cases characterized by this hypersensitiveness. Usually the condition is associated with insomnia and with sudden changes in the patient's moods varying from maniacal excitement to melancholic depression. Not infrequently there is migraine with exaggeration of all the reflexes and sometimes with hallucinations. The milder forms of hystero-psychoses manifest themselves in a slight melancholia with insomnia, loss of memory, fretfulness, and an indescribable dread of some unforeseen calamity (Apprehension Neurosis of Freud). In the severe types the melancholia is much more profound and even mania may develop. Sexual perversions are likewise often met with, due to disturbance within the pelvis.

Many of these patients are not only nervous and hysterical but they suffer from indigestion, tachycardia, unnatural flushes, cold hands and cold feet, slight enlargement of the thyroid, urinary disturbances and morbid perspirations. In short, they are the victims of what Bandler terms "relative" Basedow's or Graves' disease. This condition is made worse temporarily by the removal of the ovaries and the abrogation of the function of menstruation. There is disturbance of nutrition and metabolism and frequently there is anemia and chlorosis.

Bandler classifies the climacterium under two heads: cases which he considers as excitable, and cases which may be considered as melancholic or depressed. He makes the same division after the removal of the ovaries and emphasizes the fact that in not all instances are the vasomotor symptoms present, nor are palpitation and irritability always observed. I have in Chapter IX presented certain arguments going to show the close relationship between the thyroid and the reproductive function in women. The greater size of the thyroid in females and the frequent enlargement of the thyroid during puberty, the tendency to develop goitre during pregnancy, the early atrophy of the thyroid after the menopause, the loss of the sexual appetite in many of the thyroid diseases and the larger per cent. (80) of

myxedema and Graves' disease occurring in women, all suggest the interdependence of the thyroid and the female sexual apparatus. We are not, however, so clear as to just how disease of the reproductive organs gives rise to Graves' disease. It is not improbable that the diminished or absent ovarian secretion plays a most important role in its production. I am inclined to believe with Thompson, that the improved metabolism in these cases, which was previously disturbed in a reflex way by the pelvic lesions, is in no small degree responsible for the benefit following successful surgical work. The important point for our consideration in handling them is that they should not be permitted immediately to return home following the usual hospital convalescence. Post-operative treatment is of the utmost value, especially if the surgical work included the removal of the ovaries. These patients should be watched for at least a year and every effort should be made to establish normal metabolism. A properly selected diet with the withdrawal of animal fats and sweets, the establishment of the proper action of the skin, kidneys and intestinal canal, the correction of all lesions which interfere with digestion or act in a reflex way, are of first importance. The rest cure, during which suggestive therapeutics and massage can be utilized, may become imperative. The ingestion of large quantities of pure water is invaluable. The local use of electricity is often beneficial.

Of more importance than all else is the correction of vasomotor disturbances by proper internal medication. I know of no class of symptoms which will respond more quickly to the properly selected remedy than will the various disturbances and phenomena incident to the menopause, either natural or artificially induced. It is to me most surprising that the specialists of the older school have never learned to use intelligently at least some of the remedies which the Homœopathic School finds so useful in relieving the innumerable phenomena characterizing this period. Ringer, Bartholomew, and Potter, as well as other materia medica writers of that school, have hinted at their utility in the conditions under consideration, but the specialists have largely ignored the suggestions of these writers. They confess their inability to control the flushes, the headaches, the local congestions, etc., without placing the patient under the action of reme-

dies the constant use of which they themselves admit to be pernicious. Selected with care the remedy will do all that it is possible for internal medication to accomplish and when it fails in its object it is usually because of the existence of some local or mechanical cause which requires for its eradication local or mechanical measures. I have obtained but little benefit from feeding my patients the ovarian extract, or the more recent preparation, "Corpus Luteum." Occasionally some relief has been obtained from the ovarian preparations. However, men who have used them extensively are not, if we are to be guided by the literature on the subject, very enthusiastic regarding their use.

Naturally, if we prescribe homeopathically, we must look to the remedies which have the power when given in health to create vasomotor disturbances. Such remedies are *Lachesis, Amyl Nitrite, Glonoin, Sulphur, Sanguinaria, Sepia* and *Jaborandi.* As tissue builders I have great confidence in the *Calcareas,* and have obtained much better results from them in post-operative anemias than I have from the use of the various preparations of iron.

Lachesis.—The indications for the remedy are chills at night and flushes of heat during the day; patient feels depressed in the early morning; much heat in the vertex; globus hystericus with great sensitiveness of the larynx; symptoms worse after sleep.

Amyl Nitrite.—The flushes of heat are attended by throbbing and a sensation of intense fulness in the head; there is often a choking, restricted feeling about the throat which Lachesis fails to relieve; much throbbing; anxiety as if something might happen; must have fresh air; surging of blood to the head and face. Flushing followed by sweat at climacteric. Should not be given lower than the sixth decimal dilution.

Glonoin.—Congestion of the head with much fulness and throbbing; alternate redness and paleness of the face; symptoms all aggravated in a warm room and ameliorated by walking in the cold air. Frequent attacks of fainting; sensation of pulsation through the entire body with surging of blood to the head and face. Flushing followed by sweat at climacteric. Should not be given lower than the sixth decimal dilution.

Sulphur.—Flushes of heat followed by cold spells; cold feet; bleeding hemorrhoids; constitutional bias present.

Sanguinaria.—Patient of exceedingly irritable disposition and

easily angered; headaches beginning at the occiput extending upwards and settling over right eye; distention of the veins of the face wth excessive redness or circumscribed redness of one or both cheeks; flushings, lassitude, torpor and languor; not disposed to move or make any mental exertion; all symptoms aggravated during damp weather.

Sepia.—All gone sensation at pit of stomach. Moth colored spots on the skin, especially on the forehead; unnatural perspiration particularly in axillæ; anemia from profuse menstruation; leucorrhea yellowish or greenish and causing much itching; hysterical twitchings and spasms.

Jaborandi.—Morbid perspiration and salivation; suffusion of the face and the entire body; nausea and not infrequently vomiting.

CONCLUSIONS.

1. Extreme care should be exercised in promising too much in a prognostic way when contemplating surgical work upon neurasthenic patients.

2. Many of these patients will be immeasurably benefited by surgical work when indicated, but their convalescence is often tedious and stormy.

3. Careful post-operative treatment, which comprehends the regulation of the patient's habits and the correction of disturbed metabolism, is necessary in nearly all instances, as well as proper internal medication.

4. When after careful local and constitutional treatment the patient fails to be relieved of one or more distressing symptoms, further investigation should be made to discover whether or not a major or minor lesion has been overlooked in the surgical work previously done.

CHAPTER XIV.

SOME OF THE ADVANTAGES AS WELL AS SOME OF THE DANGERS IN BASING THE PRESCRIPTION UPON SUBJECTIVE PHENOMENA ALONE. THE SIGNIFICANCE OF PAIN.

It has ever been my aim in conducting my clinics to impress upon those present the necessity of overcoming toxic, surgical and mechanical conditions before prescribing the indicated homœopathic remedy. A repertory of drug symptoms obtained from drug provings upon the healthy is considered invaluable by many men of the Homœopathic School. The modern works of the older school devoted to diagnosis are resolving themselves more and more into a repertory of diagnostic symptoms. To the best of my knowledge the Homœopathic School, having as its distinctive feature the selection of drugs according to the law of similars, is the only one in which there has been created a repertory (index) of drug symptoms. The human mind is most variable in its operation and its ability to grasp and retain knowledge. I am frank to confess that up to the present time I have never obtained a large amount of practical information from homeopathic repertories. It is I believe necessary for the average man to reason, in order to obtain and retain knowledge, from premises to conclusions. According to my way of thinking the greatest writer on Materia Medica, and there have been many excellent ones, that the Homœopathic School has ever produced since the days of Hahnemann was Richard Hughes. In his work on "Pharmaco-Dynamics" Dr. Hughes at all times proceeds consistently from premises to conclusions in his presentation of the drugs dealt with. His argumentative style enables the reader to grasp the principles of such application in a way that would be utterly impossible were one compelled to study the same drug from the viewpoint of symptomatology alone. Except for the fact that the physiological data therein contained would have to be revised in order to conform to modern teaching, that great work is as reliable to-day as it was when the last edition was written nearly fifteen years ago. Such is the advantage of a treatise on

materia medica based upon a law of cure rather than upon empiricism. I am, of course, presuming (a presumption which I reserve the right to withdraw should time and experience prove it to be merely presumption) that the law of similars is a reliable working law in the application of drugs to disease. The chief use, therefore, that I myself make of any of the repertories now in existence is to run down some obscure and unusual symptom which the patient may emphasize.

Pain as a diagnostic symptom is interpreted in the light of modern, living pathology, obtained largely through surgery, very differently from the interpretation given it fifty or even twenty years ago—a fact which must be borne in mind in basing the homeopathic prescription upon the totality of symptoms.

Let me enumerate for you a few of the very great advantages of basing a prescription upon the subjective phenomena alone—again presuming that the law of similars is a dependable law.

Notwithstanding the conquests of the laboratory and all the paraphernalia requisitioned in modern methods of diagnosis, the early detection of functional diseases and organic lesions is often impossible. This being so, it will at once be seen that there is a tremendous advantage in being able to base a prescription, in those cases when the cause is not determinable, upon subjective symptoms alone. This to my mind is one of strongest arguments in favor of this method of prescribing. By way of illustration: I do not think that there is a surgeon or a gynecologist in the Homœopathic School of medicine who believes that it is possible to cure an ovarian cyst of any proportions by internal medication. But what was the preliminary condition which led up to the development of the cyst? In all probability it would have required a section of the ovary to detect that preliminary lesion, inflammatory or otherwise; hence the great value of the specific remedy as a prophylactic measure. No one can tell how many ovarian cysts have been aborted by, say, *Apis Mellifica,* which has a well known specific action upon ovarian tissue, and which is prescribed because of the *stinging* character of the pain early felt in the affected ovary. What is true of ovarian tumors is true of nearly if not all organic diseases, for nearly if not all organic diseases are functional before becoming organic.

The foregoing analogy can well be carried into the domain of

malignancy. What is cancer? The question is as yet unsolved. Is it of embryonic origin as Conheim taught? Is it of parasitic origin, as many of the modern pathologists teach? Or are these two theories compatible, the embryonic matrix furnishing the nidus for the reception of the specific germ, which is supposed by many to be the primal cause of cancer? I am ignoring for the time being as causative factors in the production of malignancy the various endogenous and exogenous causes, which would necessarily take us into the field of age, heredity, diatheses, internal and external trauma, climatic conditions, psychoses, inflammatory processes and chemical irritants, all of which must be taken into consideration in dealing intelligently with the prophylaxis of cancer. But whichever of the theories put forth is accepted the fact remains that the victim, except in the rarest instances, is not born with cancer, and indeed recent statistics go to show that heredity plays a much less important role in its production than was formerly supposed. In all instances it is fully conceded that there is *diminished physiological resistance,* either local or general, or both, and that if the system is put right by properly selected remedies and other necessary prophylactic treatment no cancer will occur. The language of this precancerous condition is symptomatology, many times only subjective, and the physician who has not at his command the remedy or remedies to meet the conditions present is, I sincerely believe, not giving his patient the best possible chance to escape disease. I, of course, have an abiding faith in the homœopathic remedy in contending against disease, after it is fully established, providing its control or eradication is possible by internal medication alone.

The foregoing are some of the advantages of this law. Let me be equally candid in emphasizing some of its disadvantages in the hands of one who expects too much from it. I shall begin with the statement that the man who relies largely upon symptomatology alone in making his prescription, no matter what his theories of drug application may be, is bound to fall down in innumerable instances in making such application. Let me cite for you concrete instances emphasizing this dictum.

In the proving of *Cimicifuga* we find as a keynote symptom "intense backache" with, frequently, a "submammary pain;" and if these symptoms are purely functional in character ordinarily a

substitutive dose of *Cimicifuga* will bring relief. But it must not be forgotten that both submammary pain and backache are frequently due to pelvic lesions and organic disease of the kidneys, hence the necessity of a thorough and careful examination should not *Cimicifuga* speedily relieve the case.

"Hyperesthesia of the skin," as well as hyperesthesia of the entire nervous system, is one of the keynote symptoms of *Hypericum;* but physiology teaches us that when a painful stimulus is applied to tissue, or to an organ which normally possesses a low degree of sensibility, and which is centrally in close connection with tissues or organs possessing a higher degree of sensibility, the pain so produced is felt in the part which is relatively more sensitive, and the visceral lesion which is responsible for such hyperesthesia should be sought for and removed.

One of the keynote symptoms of *Anacardium* is "indigestion of a most marked character relieved for some hours by eating," and in purely functional conditions, as well as in organic, *Anacardium* is frequently of great value when this peculiar type of indigestion prevails; but we know that this is one of the most characteristic symptoms of duodenal ulcer, and, therefore, we should not treat a patient thus afflicted indefinitely by the indicated remedy alone, for the danger of unarrested duodenal ulcer is always great.

"Pain at the junction of the dorsal and cervical vertebræ" is found in the provings of *Agaricus Muscarius;* but when due to a loaded transverse colon, as is not infrequently the case, the indications are clearly to resort to eliminative measures.

One of the keynote symptoms of *Chelidonium* is "a persistent pain under the right shoulder blade," and *Chelidonium* is most useful in relieving this condition, which usually is due to some hepatic disturbance, at times nothing more than a passing congestion; but we must not lose sight of the fact that the more serious disturbances in or about the liver (gall stone disease, abscesses, cancer, etc.) may give rise to a similarly located pain.

Eupatorium Perfoliatum produces, when given to persons in health, "a diffuse or aching pain in the bones throughout the body, sometimes with, and sometimes without, fever;" but the same symptoms are not infrequently caused by syphilis, lithemia and systemic intoxication, either hetero- or autogenetic, and while

Eupatorium is most useful in these conditions, either specific or eliminative measures are usually called for.

Veratrum Album will produce in full doses when given to persons in health "a cold clammy skin, tenderness over the abdomen, which may be either local or general, and sighing respiration with a rapid thread-like pulse," and is invaluable in the treatment of bowel conditions (diarrhea, cholera, etc.) where these symptoms are manifest; but this clinical picture may be duplicated in ruptured ectopic pregnancy, or, in rupture of any of the abdominal or pelvic viscera, when the only thing that will save the patient's life is speedily to open the abdomen.

Kali Muriaticum gives rise to "indigestion, gaseous distention and mucous enterocolitis with resulting malnutrition," and is often most useful in controlling these symptoms; but in the vast majority of instances, as I endeavored to show in the chapter devoted to Gastrointestinal Autointoxication, this clinical picture is due either to chronic appendicitis or arrested intestinal peristalsis because of inflammatory bands, or because of direct pressure within the pelvis or abdomen, and the patient cannot obtain permanent relief without surgical measures.

One of the keynote symptoms of *Sepia,* which is an invaluable remedy in gynecology, is "a bearing down sensation as though everything would protrude from the vagina." I have found this symptom present in a number of cases where it was purely subjective, possibly imagined, and disappeared after the internal administration of *Sepia.* Its most frequent cause is, however, a relaxation of the pelvic outlet which can only be corrected by surgical measures. A "bearing down sensation in the hypogastric region," or in the pelvis, may be of the greatest possible significance and if persistent calls for a careful physical exploration. Other causes will be later referred to.

One of the keynote symptoms occurring in the provings of *Nitric Acid* is "a flesh colored discharge from the vagina like the washings of meat," which may be offensive or non-offensive. The symptom suggests malignant degeneration, usually sarcomatous, of the fundal mucosa.

A large list of remedies—*Calcarea Iodid, Carbolic Acid, Creosotum, Mercurius, Sepia* and others have a leucorrhea especially characterized by "pruritus vulvæ;" but we must look for, espe-

cially when this symptom occurs in elderly people, diabetes mellitus and senile vaginitis. Pediculi are likewise often responsible for pruritus vulvæ.

The intelligent prescriber will then always take into serious consideration, in fitting his remedy to the disease in hand, all symptoms which manifest themselves subjectively; but however important such symptoms may be for the purposes of drug selection the physician will weigh purely subjective phenomena most cautiously from a diagnostic viewpoint. He will, however, be surprised to find how frequently a drug selected in accordance with the law of similars (the totality of symptoms) is also indicated because of its specific action upon the tissues or organs chiefly involved in the diseased process.

Pain, therefore, which is but the spoken language of the majority of diseases, will prove most serviceable, both for diagnostic purposes and in relieving suffering, to him who holds pathology and drug pathogenesy to be inseparable. Its significance from the viewpoint of gynecology is such as to deserve more than passing notice. For the convenience of study it may be classified as follows:

As Regards Location.—1. Lumbar region; 2. ovarian region; 3. hypogastric region; 4. sacral and coccygeal region; 5. vulvar region; 6. lower extremities; 7. general.

As Regards Function.—1. Menstruation; 2. defecation; 3. micturition; 4. coition.

As Regagds Posture.—1. Erect; 2. sitting; 3. reclining.

AS REGARDS LOCATION.

Lumbar Region.—Pain in the back is a symptom which is perhaps oftener complained of in uterine disease than any other. It may be the only manifestation of such disorder and is, probably, except when the uterus is greatly enlarged, purely reflex. That it is not due to pressure is evident from the fact that it is found when the fundus is directed forward as well as backward, and in various lesions of the pelvic organs giving rise to no pressure. It nevertheless occurs oftener in retro-displacements and particularly in retroflexion. Expulsive efforts of the uterus will likewise excite lumbar pain, hence it is a symptom of the obstructive form of dysmenorrhea, and occurs whenever the uterus contracts

upon any foreign body or substance. Prolapse of the ovaries and lesions of the cervix and endometrium may also cause a most persistent backache.

Lumbar pain due to pelvic disease is to be differentiated from:

1. Lumbago;
2. Diseases of the vertebræ;
3. Disease of the kidneys;
4. Abdominal aneurism.

In *lumbago* muscular effort is painful; the patient finds it difficult to stand erect, and even impossible to stoop forward. The onset is often sudden and it is uninfluenced by either emotion or menstruation.

The clinical history in *disease of the vertebræ* is important; that of traumatism or constitutional bias is rarely absent. There is usually tenderness upon pressure over the affected part, and other local evidences of deformity and disease are rarely wanting.

When *kidney disease* is suspected the only safe guide is a careful examination of the urine.

Abdominal aneurism is a disease of middle life and occurs more often in males. The physical signs of aneurism are rarely wanting.

Finally, menstruation aggravates nearly, if not all, pelvic lesions, but does not perceptibly influence the other affections under consideration.

Ovarian Region.—Few authors agree with the late Doctor Hewett that pain in the groin is in ninety per cent. of all cases due to anteflexion. It is more probably due in the vast majority of instances to irritation or inflammation of the ovary. In character it is stinging or burning, sometimes aching, more or less persistent, and usually confined to one side—oftener the left. It is particularly distressing a day or two previous to menstruation, during exercise and after congress. Not infrequently it can be traced to sexual irregularities, and is, therefore, often met with in prostitutes. Sometimes it occurs at regular intervals between the menstrual periods (Mittleschmertz), the result, according to Priestly, of "intermenstrual" ovulation. Gonorrheal infection is, probably, a prominent causative factor. In certain instances uterine displacements and lesions will cause reflex pain in the ovarian region, though oftener it is the result of ovarian con-

gestion and inflammation which follow in the train of such lesions.

Hypogastric Region.—Pain in this region varies greatly in character. It may be:

1. Bearing-down;
2. Intermittent;
3. Persistent;
4. Inflammatory;
5. Pain with symptoms of shock and collapse.

Bearing-down pain located in this region is suggestive of one of several conditions, and, if persistent, calls for an exploration of the pelvic organs. The most frequent cause is, undoubtedly, the contraction of the uterus upon something within its cavity or walls, when it is expulsive as well as bearing-down. Fibroid tumors, polypi, retained menstrual blood, and a detached ovum all excite the uterus to an unnatural contraction. Any disease of the uterus involving change or shape of the organ may likewise cause a bearing-down pain. Such are the various forms of displacement, particularly decensus with or without vaginal prolapse, hypertrophic elongation of the cervix, and hyperplasia of the uterine body. Hematocele as a cause of bearing-down pain will be considered under another head.

The most typical *intermittent pain* is that of normal labor. It then comes and goes at regular intervals, with a decided period of intermission. Pains simulating those of labor occur in abortion and are not infrequently present in the non-pregnant. For diagnostic purposees we may consider: (a) Pain resulting from retained menstrual discharge; (b) pain due to the expulsion of an ovum or retained fetal membranes; (c) pain due to retention of urine; and (d) pain due to tumors of the uterus.

In pain resulting from *retained menstrual discharge,* the history will usually assist us in forming an intelligent conclusion. In young girls the escape of blood externally may never have taken place. If the menstrual discharge is retained, all the symptoms of menstruation will recur at regular intervals minus the flow. The suffering is usually great, hysterical phenomena are rarely absent, and in due time enlargement of the uterus may be felt. A local examination will reveal an atresia, either of the cervix or vagina, which is usually congenital. In women who have menstruated the

symptoms are similar, but the obstruction, which may be temporary or permanent, is generally acquired. If temporary, persistent contraction will overcome it; the uterus will then be emptied and the pain will cease until the organ is again distended. This type of obstruction is often the result of flexion.

Intermittent pain due to the *expulsion of an ovum or retained fetal membranes* has a history which, if elicited, will rarely mislead a careful examiner. The patient will state that the menses have been suppressed for one or more periods. With such a history and the discharge of blood suspiciously excessive, a vaginal examination is imperative. The discharges should be carefully examined for the products of conception, though it must be remembered that in very early abortion these may be entirely overlooked. It is entirely possible for both conception and abortion to occur between two menstrual periods, when the diagnosis would be exceedingly difficult, if not impossible.

Retention of urine has caused intermittent pains simulating those of labor (Sedgwick). In the majority of instances such retention follows labor, and is due to paralysis of the walls of the bladder. In Dr. Sedgwick's case, however, it occurred in a young woman supposed to be in labor. She denied pregnancy, but violent bearing down pains with short intervals were present; the abdomen was enlarged to the size of a nine months' pregnancy. Catheterization removed an incredible amount of urine from the bladder and the diagnosis became plain. I have seen the bladder quite as much distended, but the patient was moribund from puerperal septicemia. Both of these cases show most emphatically the danger of relying upon subjective symptoms.

Intermittent pains resulting from *tumors of the uterus* are usually of a bearing down character and have already been described.

Persistent pain in the hypogastric region has its origin in cystitis and is accompanied with more or less dysuria. The pain of cystitis is subject to exacerbations and remissions, but is nevertheless persistent. The degree of suffering is influenced by the extent and severity of the inflammation. Cystitis gives rise to variable quantities of ropy pus in the urine.

Fibroma and Carcinoma Uteri and *Flexions* may give rise to persistent pain. The pain of cancer, when persistent, is peculiar,

although not pathognomonic. It does not occur until the peri-uterine tissues are involved, when it is of a dull, aching, sickening character, and may be burning or darting, seemingly transfixing the whole pelvis. Pains of this character, particularly if associated with a suspicious discharge and cachexia, demand of the examiner an immediate exploration of the parts. But it should not be forgotten that cancer may progress even to ulceration through and into the bladder with little or no pain, and absolutely no perceptible constitutional disturbance. Such a case presented herself at my clinic in the University of Michigan during the winter of 1888. The patient sought relief because of the discharge of urine through an ulcerated opening into the bladder. An examination revealed a broken down scirrhus of the cervix, involving the base of the bladder. There had been no pain and the features were those of a most vigorous woman.

The pain in *inflammation* is not pathognomonic. It is acute in character, is usually traceable to some definite cause, and constitutional symptoms are present—the pulse is increased, the temperature is elevated, and there is more or less tenderness of the affected parts. Chilliness or a decided chill usually ushers in such an attack. The severity of the suffering varies according to the extent of tissue involved and the constitutional impression made.

Pain with s*ymptoms of shock and collapse* is always of serious import. It is suggestive of rupture or perforation of some one of the pelvic viscera with an escape of its contents, or of blood into the peritoneal cavity. Such an accident follows a ruptured ectopic pregnancy cyst—the usual cause of pelvic hematocele—when the severity of the shock depends upon the direction of the rupture: if between the folds of the broad ligament, it is not necessarily very great, although the pressure symptoms may be most distressing; if on the contrary, it occurs into the free peritoneal cavity, there is nothing to limit the quantity of blood discharged and the symptoms at once become profound, if death does not speedily ensue. The ordinary symptoms of pregnancy may have preceded such an attack, but unfortunately the history often affords no clue as to its cause. Hematocele due to causes other than ectopic pregnancy is more apt to occur during or near a menstrual period. In all forms of hematocele the presence of

the effused blood frequently excites much tenesmus and bearing down.

Rupture of an ovarian cyst or of a gravid uterus gives rise to shock. The symptoms of a ruptured uterus do not differ from those of a ruptured ectopic pregnancy cyst, except that the cause is obvious, and if the accident happens during labor the child will recede from the examining finger. The character of the contents of an ovarian cyst will determine the symptoms after rupture: if bland and unirritating the symptoms are not marked; if infective, fatal peritonitis may quickly follow unless the abdomen is speedily opened.

The symptoms of shock, whatever the cause, are much the same. It is characterized by prostration, fainting, feeble or nearly imperceptible pulse, great paleness, pinched features, cold, clammy perspiration, nausea and vomiting. Whenever the foregoing symptoms present themselves they demand of the physician immediate and unremitting attention.

Sacral and Coccygeal Region.—Pain in this region may be due to actual disease of the bones or periosteum, to a displaced uterus, to pressure exerted by inflammatory exudates; or it may be purely reflex. A persistent pain in the sacral region always gives rise to a suspicion of retro-displacement of the uterus. Involvement of the retro-uterine cellular tissue will excite an obstinate sacral pain. I have often found it present when the utero-sacral ligaments were contracted by cellulitis. Adenitis and angioleucitis—inflammation of the lymphatic glands and vessels of the pelvic cellular tissue—are many times the cause of sacral pain. When the coccyx is implicated this bone should be carefully examined for the evidences of injury or necrosis. Often the cause is entirely obscure, and for the want of a better explanation the symptoms are relegated to the domain of "neuralgia."

Vulvar Region.—Pain in the external genitalia usually has its origin in some form of specific or non-specific inflammation in the region of the labia or the introitus vaginæ. Disease of the Bartholinian glands may likewise excite vulvar pain. When vulvar pain is complained of an inspection of the parts should be made before indagation is practised.

Lower Extremities.—Pressure upon the sacral plexus of

nerves is the usual intra-pelvic cause of pain in the lower limbs. Tumors, inflammatory deposits, and retro-displacements exert such pressure, when the pain is confined to the posterior surface of the limbs. Painful cramps in the calves of the legs, like those occurring during labor, may result from pressure of any kind.

When the pain is confined to the anterior aspect of the thigh another set of nerves is involved, and pressure is not the cause, unless it is exerted by a psoas abscess, or by an anteflexed uterus. Usually pain in this region is due to anteflexion; in others it may be purely reflex or referred. From whatever cause, it may manifest itself in any portion of the limb to which the involved nerve or nerves are distributed. I have seen a pain limited to a very small portion of the anterior tibial region, which had persisted for three years, disappear immediately upon repairing a lacerated cervix. Irritable carunculæ, lesions of the rectum, bladder, and urethra, may give rise to pain in the lower extremities.

General.—The general symptoms of uterine disease are so innumerable that in my Text-book I have devoted several chapters to the so-called Hystero-Neuroses. It is sufficient at this time to observe that any and every part of the body may be the seat of disturbance whose origin is within the pelvis. This may be the result of pain directly reflected or referred, or secondary to depraved nutrition, which follows in the train of disordered digestion and malassimilation. The stomach, the liver, and the intestinal canal are frequently affected in a reflex way, giving rise to dyspepsia, cardialgia, nausea, vomiting, anorexia, jaundice, diarrhea, constipation, etc. Persistent pain in the occiput or vertex, worse during menstruation, while not pathognomonic of pelvic disease may frequently characterize it. So also does pain in the left inframammary region. Spinal irritation is a part of the general "neurasthenia" which supervenes as the nutrition suffers. In short, the entire system is often profoundly and obstinately impressed by utero-ovarian lesions.

AS REGARDS FUNCTION.

Menstruation.—Dysmenorrhea is the term by which painful menstruation is designated. Few women are absolutely free from pain during menstruation. By observing the character and the circumstances under which it appears, it is possible to form a very

intelligent idea of the cause of the suffering. Pain radiating from the uterine region, occurring in paroxysms, and terminating with a more or less profuse discharge of menstrual blood, suggests an obstruction to the exit of the blood. Pain in one of the ovarian regions for two or three days preceding the onset of the flow, and usually relieved by it, would direct attention to the corresponding ovary as the probable seat of mischief. If the flow is uninterrupted, the pain sharp and fixed, or comes and goes in quick succession, and the patient is of a neuralgic or gouty diathesis, the cause is probably systemic and there may be an absence of local lesions. If it appears suddenly during menstruation, followed by suppression and constitutional disturbance, acute congestion or actual inflammation is the usual cause. Or if the pains resemble those of labor and occur simultaneously with the flow, ceasing upon the expulsion of a clot whose nucleus is a piece of membrane, the symptoms are probably due to membranous dysmenorrhea.

Defecation.—From the standpoint of both physiology and pathology the female pelvic organs are a unit, and the gynecologist can no longer ignore the influence which the rectum and the bladder exert upon the generative organs. Painful defecation may be the only symptom of which the patient complains. It may be due to one or more of the following causes: Cancer, stricture, fissures, hemorrhoids, polypi, prolapse of the ovary, pressure exerted by a sensitive fundus or cervix, pelvic exudates, fistula, rectocele and proctitis. From the character of the pain alone we can only surmise the nature of the lesion. For accurate diagnostic purposes a local examination is imperative.

Micturition.—Only the factors concerned in painful micturition are to be mentioned. These are: Inflammatory diseases of the bladder and urethra, malignant disease of the bladder, vascular tumors and eversion of the mucous membrane of the urethra, abnormal positions of the uterus, fissures, vesical calculi, disease of the ostium vaginæ, and abnormal conditions of the urine.

Inflammation of the bladder and urethra may be either acute or chronic. If limited to the bladder, pain is present more or less constantly, and especially during micturition. The inflammation in both instances may be due to a number of causes.

In the rare instances of idiopathic *malignant disease* of the

bladder the pain is worse immediately following micturition. Turbidity of urine, with or without blood, is a symptom of carcinoma of the bladder. In hematuria the source of the blood can only be determined by a careful and, perhaps, repeated examination of the urine. The cystoscope, in experienced hands, is very useful in diagnosing vesical lesions.

Vascular tumors of the urethra, unlike urethritis, cause a persistence of the pain after micturition which lasts for an indefinite time. *Eversion of the mucous membrane* in both young girls and married women may excite dysuria. Benecke has reported three cases of prolapse of the urethral mucous membrane in young girls. I have seen, in an elderly woman, a similar prolapse as large as a pigeon's egg, which was the cause of very painful micturition.

Abnormal positions of the uterus are more apt to cause difficult than painful micturition. However, I have often seen both difficult and painful micturition caused by retraction of the utero-sacral ligaments, drawing the cervix and the base of the bladder backward.

The pain resulting from a *vesical calculus* is worse immediately after the bladder is emptied and is caused by the contact of the bladder walls with the stone. Calculi almost invariably excite, sooner or later, cystitis.

Any disease of the *ostium vaginæ* causing it to be inflamed or ulcerated, will excite more or less pain after micturition. Such are the various forms of inflammation, and specific and malignant forms of ulceration. Excoriation of the vaginal outlet is not infrequently due to abnormalities of the urine.

Coition.—Painful sexual intercourse, or dyspareunia, may be the one and only symptom for which the gynecologist is consulted. The causes are many and may be enumerated as follows: Pelvic congestion from any cause; inflammation of any of the generative or pelvic organs; ovarian tenderness or prolapse; irritable caruncles; fissure or ulcers of the vulva, urethra, or anus; neuromata of the vulva; coccygodynia; simple hyperesthesia without evident lesion; and atresia or stenosis of the vulva or vagina.

AS REGARDS POSTURE.

Erect.—The bearing down pains, pains in the lower extremities, and those caused by inflammation, are aggravated by the

erect posture, and especially by walking. The distress incident to relaxation of the pelvic floor with uterine and vaginal displacements is often felt only in this posture.

Sitting.—If the female perineum is pressed upon in the direction of the axis of the pelvic brim, there will be more or less bulging of the hypogastrium. Although the perineum is protected by the tuberosities of the ischia, a certain amount of pressure is exerted upon it, especially in large fleshy women, in the sitting posture, which pressure is communicated to the deeper parts. The bowels and the pelvic organs are, therefore, in a measure "squeezed" while the woman is sitting, and if inflamed or tender from any cause, pain is liable to result. A *prolapsed ovary* may be impinged upon in no other posture. *Disease or displacement of the coccyx* and of the *rectum* may make sitting painful or impossible. When coccygodynia is present the pain is excruciating during defecation and while the patient is rising from the chair.

Reclining.—There are few if any gynecological diseases made worse by the reclining posture. When the spinal cord is secondarily involved, either in a reflex way or from nutritive changes, the following observation should be noted: If the pain in the back be due to *anemia* of the cord, it is made better by lying upon the back, when the blood will gravitate to the cord and its membranes, thus temporarily overcoming the anemia; if, on the contrary, the pain be due to *congestion* it will be aggravated in the dorsal posture.

CONCLUSIONS.

1. In insisting upon the necessity of overcoming surgical, mechanical or toxic conditions before prescribing the homeopathic remedy in a given case the physician is but carrying out the teaching of Hahnemann, the founder of the Homœopathic School, who especially emphasized that "when the physician *knows* in each case the *obstacles* in the way of recovery and how to remove them, he is prepared to act thoroughly and to the purpose as a true master of the art of healing."

2. The tremendous *advantage* in basing one's prescription, so far as internal medication is concerned, upon the subjective phenomena of the disease rather than upon the objective, lies in the

fact that by so doing perverted function can be corrected long before the physical manifestations of the disease manifest themselves; the *disadvantages* of this method are due entirely to an unjustifiable reliance upon the internal remedy thus prescribed when the indications point clearly to organic change or changes, requiring for their correction before they become inoperable, surgical or physical measures.

3. The man who presumes to teach homœopathic materia medica, either as a writer or a lecturer, should possess a broad knowledge of medicine, should be a clinician and a diagnostician of the highest type and should be able so to interpret subjective phenomena as to call attention to the possible pathological significance of each symptom.

4. The Homœopathic School should possess a Repertory in which the diagnostic import of symptoms is appended to each prominent symptom in such manner as to make their interpretation easy and intelligible.

CHAPTER XV.

POST-OPERATIVE TREATMENT.

It is extremely difficult to carry out satisfactory post-operative treatment without the co-operation of an intelligent nurse. This statement is quite as applicable to the post-operative treatment of plastic conditions within and about the vagina as to that of celiotomy. Unless the nurse is in entire sympathy with the ideals of antisepsis and asepsis, she is utterly unfit for surgical nursing. Rarely is it possible for the so-called practical nurse to grasp the full meaning of the term "surgical cleanliness," and surgical cleanliness is a *sine qua non* in all pertaining to the after treatment—from the application of an ice cap to the introduction of a catheter. The nurse should, of course, be perfectly capable of taking the pulse and the temperature. She should be able to empty the drainage tube, where one is used, as often as may be necessary. She should know how to prepare and administer nutritive enemata. She should keep an accurate clinical record to which the surgeon can refer at each visit. She should be able to recognize the symptoms of shock and collapse and internal hemorrhage so that the surgeon may be able to apply at once the proper treatment; and finally, she should possess sufficient moral courage to adhere rigidly to the surgeon's directions despite the pitiful appeals which patients often make to have them disregarded. Most of the nurses who pass through the training schools of today possess the necessary qualifications suggested by the foregoing. Unfortunately, every now and then the surgeon comes in contact with nurses who, in spite of diplomas from high grade training schools, never make good surgical nurses.

In uncomplicated plastic cases the required nursing is of the simplest character. The patient is under all circumstances permitted to urinate naturally if she can do so. After urination the parts are washed with some aseptic solution—normal salt, boric acid or a weak bichloride solution—the perineum dried with absorbent cotton and sterile boric acid powder dusted over them. It is customary to leave the vaginal packing behind

for at least 24 hours. During this time it may be necessary to use the catheter, in the use of which the utmost care must be observed. The surgeon's greatest *bete noire* is urethral irritation and bladder infection resulting from the too frequent use of the catheter, or from want of proper asepsis in its use. Each patient should have her own catheter as she should also have her own vaginal and rectal tips. In order to keep these entirely free from contamination because of contact with other patients possibly suffering from specific diseases or septic infection, I have had my instrument dealer make for me a three compartment vase, the compartments being labeled respectively, "catheter," "vaginal tip," "rectal tip." These compartments are filled with an antiseptic solution, and after thorough sterilization the catheter and tips are deposited each in its own place to be used when wanted. No matter how well regulated a hospital may be the nurses all too often become careless in the proper sterilization of these important instruments and, when they are placed in a common receptacle, general dissemination of infective processes may occur.

After trachelorrhaphies and work done within the vagina I instruct the nurse to use a boric acid douche after each urination. Under all circumstances whether in abdominal or vaginal cases spontaneous urination should be encouraged. Even with the greatest possible care when the catheter has to be too frequently passed urethral irritation is liable to follow. As soon as this manifests itself the bladder should be irrigated once or twice per day with a saturated boric acid solution and *Cantharis* 3x given internally. In perineorrhaphies and in rectal operations, if the pain is at all distressing, much relief is afforded by the application of hot sterile antiseptic packs to the perineal area.

After abdominal section the patient should be placed in a properly warmed bed with the head low and kept perfectly quiet for the first few hours. The immediate treatment will depend in no small measure upon the anesthetic used. If gas and ether have been used and the patient has had but little ether, a hypodermic of one-sixth of a grain of morphin should be given as soon as she begins to manifest pain. In straight ether anesthesia an opiate is not necessary for some hours after the operation because narcosis usually persists for some length of time and the suffering is not marked for several hours. If she vomits she

should be turned on her side so that the vomited matter will not get into the windpipe. If vomiting is an early symptom, she should be permitted to take a glass of water which will be almost immediately ejected, the stomach thereby being completely emptied. Proctoclysis is a routine procedure with most surgeons. A complicated apparatus for its administration is not necessary. A simple douche bag with a regulating clip and a soft rubber catheter will answer every purpose. The patient should be kept upon her back and perfectly quiet. The water should be delivered into the rectum at the rate of 150 drops per minute. Unless there is evidence of renal insufficiency, I prefer the plain sterile water to the salt solution. It is absorbed with reasonable ease and it allays the thirst much better than does the salt solution. It is not necessary to deny the patient water by mouth for the long intervals which many abdominal surgeons practise. It is my custom to prescribe hot water at the end of five or six hours in two dram doses given every 30 minutes.

If convalescence progresses normally, water and liquids can be given more freely at the beginning of the second day. If the stomach tolerates the water without trouble, milk with lime water, malted milk, beef tea, egg albumen or peptonized milk is permitted in small quantities. If the gas is troublesome a high glycerin or cathartic enema is administered. No effort is made to move the bowels on the second day, except in emergency cases where no opportunity was given previous to the operation to properly prepare the gastro-intestinal canal. Usually sedatives are unnecessary after the second day. If, however, the pain is very marked, I prefer to give one-sixth of a grain of morphin under the skin than to have the patient constantly restless and unable to sleep. However, small doses of *Aconite,* or if there has been much trauma, small doses of *Arnica,* or if the nervous symptoms are very manifest, small doses of *Hypericum* by mouth will usually be all that is necessary. Proctoclysis is discontinued as soon as it is evident that the kidneys are functionating normally.

No effort is made to move the bowels, unless the symptoms are distressing, before the end of the third day. I am then governed entirely by the indications as to the best method of moving them. If the tongue is clean and there are no evidences of liver or

gastro-intestinal stagnation, a high glycerin enema is usually quite sufficient and is preferable to a purgative in that it does not disturb the stomach and re-excite nausea. If, on the other hand, the tongue is coated and the gas pains are marked, a purgative is indicated. My usual method is to give one-tenth of a grain of Calomel every half hour until a grain is given and then two hours after the last tablet is taken administer a Seidlitz powder in divided doses, or some of the pleasanter saline cathartics now on the market under the name of Kutnow's Powder, Sal Hepatica, Sal Laxa, etc. This is supplemented by the use of a high glycerin or cathartic enema. If there are no counter indications at the end of the third day a soft diet may be substituted for the liquid and any indicated medication administered by mouth. The subsequent convalescence, if uninterrupted, requires nothing more than the routine after treatment, which comprehends antiseptic douches, the daily sponge bath and alcohol rubs, massage, a suitable and varying diet, and the care of any constitutional conditions that may present themselves.

In the method used by me in closing the abdominal wound, which consists of a separate gut ligature for the peritoneum, the fascia and the skin, supported by a suitable number of tension sutures, I remove the tension sutures at the end of the third or fourth day. They will have, by this time, accomplished their mission, namely, the sustaining of the wound during retching and the overcoming of dead spaces. They should be removed with the utmost care as regards cleanliness and after their removal a three per cent. iodin solution applied. If the skin wound is closed with Michel clips, these are removed at the end of the fifth or sixth day and the wound supported with adhesive plaster. When the wound is exposed for the first time a tape is tied into each of the several cut ends of adhesive plaster in such a way that subsequent exposure can be made without stripping the plaster from the skin. The patient is at all times encouraged to move about in bed and especially to move the lower limbs. Pelvic and femoral thrombi are prevented by their so doing.

It is my practice to prescribe a suitable abdominal supporter to be worn for some months after all abdominal sections. The modern straight front corset, if applied from below upward while in the recumbent posture, is a very suitable substitute for the binder.

The patient is permitted to sit up in from seven to fourteen days, depending upon the nature of the operation. In appendicectomies with a small gridiron incision, there can be no harm in sitting up at the end of the third day. On the other hand, if the abdominal wound is long, I think the more conservative method of keeping the patient in bed for 14 days is advantageous.

After any serious abdominal operation the patient should not be compelled to work for some weeks. It has often occurred to me that an ideal charity would be one organized along the line of the various visiting nurses' organizations, except that instead of being composed of nurses whose function it is to *nurse and not to look after household affairs,* it should be composed of *maids and housekeepers,* whose earning capacity is much less than that of the trained nurse and whose mission it would be to receive convalescent hospital cases returning to their homes and care for them and their children during a period of, say, two, three or four weeks. I am sure that all surgeons have many times regretted the necessity of returning patients to their homes after serious operations when it was well known that they would have to assume the care of their own households.

Abdominal drainage tubes are now rarely used, vaginal drainage being substituted in the larger number of instances for abdominal drainage. When extensive adhesions are met with, high blocks should be placed under the head of the bed in order that all exudates may gravitate toward the pelvic cavity; or the Taylor posture may be adopted.

In hysterectomies, or in cases where the uterus is held forward by one of the operations for that purpose, the intervals of emptying the bladder should not be too long, as its capacity is temporarily lessened.

The foregoing directions are applicable to ordinary cases of abdominal and gynecological surgery which are characterized by no unusual complications..

The conditions requiring special attention, and which occur as complications, are Shock, Hemorrhage, Persistent Vomiting, Kidney Insufficiency, Acute Dilatation of the Stomach, Bowel Paralysis and Obstruction, Peritonitis and Thrombo-phlebitis.

Shock.—Shock is the result of various factors and depends in no small degree upon the operator's technique. Gentleness and

care in the delivery of the viscera and reasonable rapidity in operating, as well as the protection of the intestines by pads wrung from warm salt solution, will go a long way toward its prevention. Shock, of course, also depends in no small degree upon the patient's condition preceding the operation. It is, however, most surprising to see in many instances how little shock attends an ordinary operation, say a supravaginal hysterectomy for a bleeding fibroid, even though the hemaglobin is low and the patient blanched by the long continued drain upon her system because of the preoperative uterine bleeding.

Crile's "Kinetic Theory" of Shock, and the method adopted by him for preventing the same, which he has termed "anoci association," is now receiving no little attention. According to this surgeon there are certain organs—the brain, the thyroid, the suprarenals, the muscles and the liver—which constitute a "kinetic system." The "kinetic system" converts latent energy into motion or heat in response to adequate stimuli. If the stimuli are overwhelmingly intense then the kinetic organs, especially the brain, is exhausted, even permanently injured. This condition is *acute shock*. If the stimuli extend over a period of time and are not so intense as to cause an immediate breakdown or acute shock, their repetition may cause the gradual exhaustion of the kinetic system—a condition which may be called *chronic shock*. Either acute or chronic shock may, says Crile, be measurably controlled by weakening or breaking the kinetic chain at any point.

Shock, then, is the result, according to Crile, of an intense stimulation of the Kinetic System—by trauma, toxins, anaphylaxis, strychnin, etc.; and also by physical exertion and emotion. In its treatment fear is overcome as much as possible by a reassuring preoperative environment. In extremely nervous goitre cases the patient is "stolen" from her bed and taken to the operating room by being kept in ignorance as to the exact date of her operation. A preoperative narcotic is given to dull the senses and the nerves before the general anesthetic is administered. A non-suffocating odorless anesthetic—gas-oxygen—is administered and all local afferent impulses during the course of the operation are cut off by the local use of novocain. A second local anesthetic —quinin and urea-hydrochlorid—is injected in close proximity to

the operating field to protect the patient during the post-operative hours; and, finally, by gentle manipulation and sharp dissection the trauma is reduced to a minimum. An effort is made by a combination of these methods to protect the patient from suffering damage to the so-called "kinetic organs," especially the brain, the suprarenals and the liver.*

This ingenious theory of shock as proclaimed by Crile is most fascinating and was received by certain members of the profession with no small degree of enthusiasm. On the other hand, it has been bitterly antagonized by some of the leading laboratory workers who question Crile's conclusions, as well as by not a few surgeons who have not always been exactly just in their criticisms. The histological evidence to the effect that the brain participates as the chief organ of the system is objected to on the ground that Nissel, whose method Crile adopted in his research work, found it entirely untrustworthy, as have most subsequent workers. Frank C. Mann (Mayo clinic, 1916), who has also been an enthusiastic laboratory worker, does not believe that the vasomotor center is either depressed or fatigued in shock. Mann concludes that shock and hemorrhage are practically identical and that experimental shock at least is simply due to an extensive extravasation of the elements of blood into the peritoneal tissues, that this change is due to traumatic inflammation, and that the central nervous system has little to do with the condition. There are, however, certain features of Crile's technique especially emphasized by him which have long been recognized by all surgeons as most important factors in the prevention of shock. The overcoming of fear by reassuring the patient gives to the surgeon who possesses a personality which enables him to do so, tremendous advantage over the man who does not possess such a personality. I cannot, however, believe that the patient's anxiety is in any way lessened by the uncertainties as to the *time* of operation, which Crile advocates. I have long made it an invariable rule to reassure the patient and to belittle the dangers attending the operation immediately preceding the administration of the general anesthetic. The preoperative administration of morphin or morphin and scopolamin, has for a long time been the practice

*For detailed technique see "Anoci-Association, *Crile* and *Lower, 1914.*"

of many surgeons. It was, of course, primarily given preliminary to the general anesthetic for the purpose of facilitating the administration of the latter; but it was soon observed that partially narcotized patients approached the operation with much less fear than those who do not have the narcotic.

The question as to whether the local anesthetic, in conjunction with the general, completely "blocks," as Crile terms it, the nociceptors so that the "kinetic organs," and especially the brain, do not suffer from trauma, is one which is questioned by the majority of surgeons. Pannet (*Lancet,* 1915, 1-1175) says, "Afferent impulses set up by the incision of the abdominal wall in the linea alba can be prevented from reaching the nerve centers by local infiltration with novocain, as recommended by Crile. When the incision is not in the middle line, these impulses can be blocked only by anesthetizing the nerve trunks, as well as by employing local infiltration to render the nerve endings insensitive." * * * "This procedure," he says, "may necessitate the waiting of some minutes before the injection of the anesthetic and the severance of each layer."

I have long observed that in hysterectomies where the broad ligaments are clamped in powerful forceps previously to securing them in ligatures, the post-operative suffering is infinitely less than when forceps are not so applied. This is a form of anoci-association which is theoretically wrong because the presumption is that the procedure crushes the tissues in such a way as to produce local necrosis if not terminal neuritis. From a practical viewpoint, however, the convalescence is made less painful and is in no wise disturbed by the procedure, which is rather an argument against the necessity of at all times overcoming all adhesions with a sharp knife. Crile says, "Clamp compression alone, even without novocainization, causes relatively slight nocuous response."

In studying the post-operative management of the cases in general as given by Crile's resident surgeon, Dr. Samuel L. Ledbetter, Jr., one finds that even after anoci-association practically the same post-operative treatment is followed by Crile that is followed by the vast majority of surgeons. It is claimed by Crile that the pain is much less following the operation; but he nevertheless advises the administration of most liberal doses of

morphin to carry the patient through the post-operative period. It is claimed by him that the aseptic wound fever and hyperthyroidism are much less marked than when anoci-association is not used. It is also claimed that nausea and vomiting and digestive disturbances are greatly lessened by anoci-association; but he frankly admits that "there may be morphin nausea to the degree ordinarily caused by that drug." It is claimed by him that "ether anesthetizes the phagocytes as well as the man and so places the patient in the position of a citadel when at the hour of assault by the enemy the defenders are asleep in the trenches." If, therefore, nitrous-oxid-oxygen be used the phagocytes remain ready for action and the danger of infection is accordingly lessened.

Dr. Crile emphasizes the danger of the use of local anesthetics where infection is present because they to some extent diminish the resistance of the tissues. It is also claimed that by the use of nitrous-oxid-oxygen, a claim which I believe is fully justified, the kidneys are relieved from the lipoid-solvent action of the ether, thereby lessening the danger of nephritis. Unfortunately in nearly all capital operations it is necessary to supplement nitrous-oxid-oxygen anesthesia with ether or chloroform, even though a local anesthetic be used, in order to make the patient entirely insensible.

The importance of gentleness and care in operating is especially emphasized by Crile, and those of us who have seen him work are inclined to believe that his success as a surgeon is due more to his operative technique than to so-called "anoci-association." We are inclined to believe, too, that Crile's technique has developed *pari passu* with the evolution of his anoci-association, and that he is confusing his causes and his effects. There are few surgeons who longer advocate what Crile has pleased to term the "carnivorous operation." On the other hand, the practical surgeon questions the wisdom of the long delay which would, for instance, necessarily attend the dissection by knife alone, as Crile recommends, however sharp it may be, of the extensive adhesions deep in the pelvis which ordinarily attend cases of chronic gonorrheal salpingitis with or without tubal abscess. My own observation leads me to believe that the factor of *time* is more important in the prevention of shock than is a so-called clean

dissection where the pathology is as extensive as it usually is in gonorrheal infections.

Whatever bearing acidosis has in the creation of shock is yet problematical. Crile (Annals of Surgery, 1915, Vol. I, p. 6) who has paid especial attention to this subject summarizes his observations as follows:

1. Increased acidity develops during the anesthetic itself. 2. Morphin preceding the induction of the anesthetic lessens the production of the acidity; but after acidity has been produced this drug lessens the power of the animal to overcome acidity. Crile therefore advises when acidity is present or threatens, the pre-operative and post-operative administration of sodium bicarbonate and glucose per rectum, his theory being that the acidosis is due to the exhaustion of the alkali bases from the overtaxing of the liver and the suprarenals.

I have personally obtained, in pernicious vomiting of pregnancy where the patients have been *in extremis* because of acidosis, most striking results from full doses of Sodium Bicarbonate per rectum, using the drop method of administration.

Whatever theoretical objections may be brought forth to disprove Crile's Kinetic theory of shock the final test must ever be the clinic and the results obtained. This should be the thought foremost in the mind of every surgeon. The Kinetic theory of shock fascinated me and having absolute faith in Crile's honesty as an investigator, I tried it most faithfully, endeavoring to carry out Crile's technique in every detail in a series of 50 abdominal cases, alternating each case operated upon with a straight ether or a straight gas-oxygen-ether case. I could not see the slightest difference in the degree of shock attending and following the operation in the two series, nor in the suffering and postoperative complications, other than wound infection, attending their convalescence. So far as the local wounds were concerned, the advantages were all on the side of the cases where the local anesthetic was not used. In thyroidectomy for Graves' disease the local use of *Novocain* in conjunction with gas-oxygen-anesthesia is, in the opinion of many surgeons, advantageous. But the free local use of *Quinine* and *Urea hydrochlorid,* especially in septic cases, is not without danger to the tissues into which it is injected, a fact which Crile himself admits. Then, too, the operation is

not only made "mussy" by the use of the local anesthetic, but it is also prolonged, time always being, as we have seen, an important factor in the prevention of shock. When it is remembered that a quick, clean-cut incised wound is practically painless when made, even more so than is the frequent puncture wound of a large hypodermic needle, such as is used by Crile in the administration of the local anesthetic, the practical surgeon is not disposed to use it for opening the abdomen. I believe that my experience has been the experience of the great majority of surgeons, with few notable exceptions, who have undertaken to carry out Crile's scheme of anoci-association. In thus commenting upon a feature of Dr. Crile's work, which has been so thoroughly discussed by the surgical world, I am entirely conscious of the fact that surgery owes him much for his many valuable and original contributions to it.

The classic *treatment* of postoperative shock is the subcutaneous use of heart stimulants like *Strychnia* and *Digitalin,* the administration of *Morphin* combined with one one-hundred and fiftieth of a grain of *Atropin* if there is suffering, the use of *Camphor* dissolved in olive oil under the skin or administered per rectum, the rectal injection of strong coffee, the hypodermic injection of brandy and, more valuable than all else, the use of the normal salt solution administered either under the skin, or by proctoclysis, or intravenously. Ten minims of 1:1000 solution of *Adrenalin* can also be advantageously given hypodermatically.

The patient should be kept warm, but care must be observed when hot water bags are used for this purpose not to have them come in contact with the skin.

Can Homœopathy add anything of value to the foregoing well tried treatment of shock? It, of course, utilizes, and with gratitude, all measures that time and experience have proven of benefit in overcoming the immediate symptoms of shock some of which, as we shall see, being clearly homeopathic. What are those symptoms? In its worst aspect shock is characterized by *pallor, anxious expression, lowered temperature, low blood pressure, cold perspiring skin, thready or imperceptible pulse, intense weakness and often impaired intellection.* If shock is, therefore, to be treated homœopathically, a remedy must be found capable of producing, when given in full toxic doses to humans, one or more of these symptoms.

Notwithstanding the experiments made by Crile upon animals going to show that toxic doses of *Strychnin* will produce symptoms almost the exact counterpart of shock, it is still the leading remedy with the vast majority of surgeons in its treatment, although Crile himself has discarded it and deprecates its use. Crile, however, ignores Rudolph Arndt's dictum to the effect "that small doses encourage life activity; large doses impede life activity; while very large doses destroy life activity." *Strychnin* is therefore harmful in shock in large doses, but in small doses—one one-hundredth of a grain or even smaller than this—it is, I believe, of the greatest utility. It should be administered not too often and, if the heart action is extremely feeble, it can be advantageously alternated with one-fiftieth grain doses of *Digitalin.*

Camphor is another remedy which will, in large doses "depress," (I shall quote from Potter that my evidence may not be considered prejudiced) "the heart and lower the arterial tension, diminish the reflex function of the spinal cord, produce coldness of the surface and insensibility." It has long been used as a homœopathic remedy in the treatment of cholera and choleraic diarrhea characterized by vomiting, gastralgia, cardiac depression and collapse. The older homeopathic surgeons considered it a remedy of great value in the treatment of shock and it is now one of the classic remedies recommended by Crile and nearly all surgeons for this purpose. It is especially indicated where the picture is that of collapse, with icy coldness of the whole body and the pulse is small and weak. It is best administered under the skin in the strength of one grain of *Camphor* dissolved in 15 minims of olive oil.

Veratrum Album (white hellebore) is another remedy capable of producing, when administered to a person in health, symptoms that are the very counterpart of shock. Such symptoms are cold sweat, extreme pain with delirium, great weakness, numbness, tingling and coldness of the extremities, marked thirst, death-like features, thready pulse, and yawning hiccoughs. When these symptoms prevail *Veratrum Album* in small doses, either by mouth, by rectum or under the skin, will be found most serviceable.

If the skin is dry and there is marked thirst with much restlessness, *Arsenicum* will be found a most useful remedy.

In the later treatment of shock, particularly if the patient has lost a great deal of blood and there is much prostration, *China* will be found a most useful remedy. The patient is anxious, there is difficulty of breathing, the face is pale and ghastly, the pulse failing, and not infrequently there is a good deal of gaseous distension of the abdomen.

There are two *postoperative remedies, Aconite* and *Hypericum,* which, after the reaction is established, I have found of the greatest utility. In *Aconite* there is active and obstinate restlessness, the senses are excessively keen, the pulse is tense and thready and not infrequently there is a fixed idea of impending death, the latter being a very characteristic mental symptom of this drug.

Hypericum has long been used by the homœopathic profession in postoperative treatment, especially where the terminal nerves are involved and the patient suffers excessively from pain. It is particularly useful in puncture wounds where it can be used both internally and locally.

Internal hemorrhage is characterized by a rapid rise in the pulse rate, which becomes weak and thready as the hemorrhage continues, by restlessness and thirst, by sighing respiration, by pain and, usually, by a subnormal temperature. The patient remains perfectly conscious even though dying from the loss of blood. When these symptoms prevail she should be kept absolutely quiet; cold ice packs should be placed over the lower abdomen and a hypodermic of one-sixth to one-fourth of a grain of *Morphin,* combined with one one-hundred and fiftieth of a grain of *Atrophin,* given and her symptoms carefully watched. The saline solutions in any form are here contraindicated because the hemorrhage is only aggravated by increasing the blood pressure. Formerly we were advised, when the foregoing symptoms followed a celiotomy, to immediately reopen the abdomen and secure the bleeding points. I believe that more lives have been lost than saved by this practice, for these patients possess a margin of safety so small that the additional shock of reopening the abdomen will almost surely kill them. On the other hand, it is surprising what nature will do in the way of controlling internal bleeding, and how the victims will gradually rally after 24 or 48 hours from a condition which seems almost hopeless,

if conservative measures are followed. *China* 1x administered by mouth every 15 or 30 minutes is most serviceable.

Persistent Vomiting.—Vomiting as a postoperative factor in selected cases is in a measure under the control of the operator. Proper preparation of the patient in the way of getting the gastro-intestinal canal in shape, and the liver to functionate normally, is an important prophylactic measure. The anesthetic is, too, an important factor in its prevention, there being much less nausea under the modern gas-ether-oxygen anesthesia than when ether alone is given. The patient should be placed in bed with the head low, and if there is nausea a glass of hot water given as soon as she is able to swallow. This will usually be ejected, bringing with it the contents of the stomach, the accumulated mucus, and not infrequently some bile. As soon as she begins to suffer pain one-sixth of a grain of *Morphin* should be administered, or, as many surgeons prefer, from three-fourths to one grain of *Codeia Phos.* If the vomiting continues after six or eight hours, the stomach should again be washed with a glass of warm water containing ten grains of *Bicarbonate of Soda,* and then given complete rest for three or four hours, during which time proctoclysis is persisted in. When fluids by mouth are resumed they should be given in small quantities, preferably hot, and repeated not oftener than every half hour. If the question of nourishment is urgent, nutritive enemata may be given. A favorite formula of mine is: Malted Milk in solution, three ounces; Bovinine, one-half ounce; and, if there is much prostration, Brandy, one ounce.

Ordinarily, under the treatment outlined, the vomiting can be gotten under control in 24, or at the longest, 48 hours. If, however, there is intestinal paralysis with more or less distention of the stomach and the abdomen, it becomes absolutely necessary before it can be controlled to relieve the patient of her constipation and intestinal paralysis. The latter condition may be but temporary in character; or it may be due to an obstruction incident to the delivery of the intestines, or to adhesions, or to beginning peritonitis. Inasmuch as it is extremely difficult for the patient to retain anything on the stomach in these cases, an effort should be made to relieve the distention from below by giving a high glycerin enema, or a so-called cathartic enema. The glycerin enema should contain at least two ounces of glycerin

in a quart of water administered through a long rectal tube carried well up into the sigmoid. The cathartic enema consists of two ounces each of magnesia sulphate, glycerin and water, to which should be added, should there be marked distention, from one to two drams of turpentin. This forms an emulsion and should be administered warm and slowly and retained for at least 20 minutes if possible. Strychnia in fiftieth of a grain doses may be administered under the skin for the purpose of stimulating the intestinal musculature. If one is reasonably sure that there is no mechanical obstruction, one-eightieth of a grain of Eserin Salicylate may be given hypodermatically.

The Homœopathic Remedies especially useful in persistent vomiting are: *Ipecac, Nux vomica* and *Apomorphia.*

Ipecac.—Persistent nausea and vomiting, although the tongue is clean and mouth moist. Vomits food, blood, bile, mucus; there is a constant, clutching pain in the abdomen, worse around the navel.

Nux Vomica.—Patient complains of weight and pain in the stomach with flatulence and pyrosis; sour, bitter eructations.

Apomorphia.—Persistent nausea and vomiting with much vertigo. Especially useful in alcoholics and victims of the opium habit.

Where *flatulence* alone is a distressing symptom the remedies which I have found particularly useful are *Nux Vomica* 1x, *Magnesia Phos.* 3x, *Colocynth* 3x and *China* 1x.

If there is a significant rise in the temperature with abdominal distention, marked tenderness over the abdomen, and especially if the pulse increases in rapidity, becoming small and wiry, it is more than probable that *peritonitis* has become established and the condition is serious. The physician should under these circumstances be persistent in his efforts to move the bowels, but care must be exercised not to exhaust the patient in so doing. Homœopathy has here a list of remedies which I believe to be of the greatest possible service because of their direct action upon the tissues involved. Of these I would especially mention *Aconite, Veratrum Viride, Belladonna, Bryonia, Apis Mellifica, Arsenicum, Terebinthina, Colocynth, Cantharis* and *Lachesis,* and, possibly, the vaccines. The special indications are:

Aconite.—Great restlessness, high fever and rapid pulse. Early

congestive stage with anxious expression of the face. Ten drops of the tincture in a glass half full of water. A teaspoonful every half, one or two hours as necessary.

Veratrum Viride.—Violent excitement of the circulation with nausea, vomiting and cold sweat. There is marked cerebral congestion; respiration very slow. One dram of the 1x in a glass two-thirds full of water and a teaspoonful every 15, 30 or 6c minutes until the circulatory excitement is under control.

Belladonna.—Marked congestion of the head; strong pulsating carotid arteries, the face being red and the pupils dilated. The pains are of a shooting, stabbing character which come and go in quick succession. Light and noise unbearable. One dram of the third decimal dilution in a glass half full of water. A teaspoonful every one-half, one or two hours, according to the violence of the symptoms.

Bryonia.—Especially useful in the stage of exudation. The least motion aggravates the patient's suffering; the tongue is white and dry; there is great thirst and the bowels are constipated. *Bryonia* is so exquisitely homœopathic to this condition that it should never be given lower than the third decimal dilution.

Apis Mellifica.—Stinging, thrusting pain similar to that arising from the sting of a bee. Absence of thirst; the urine is scanty; there is dyspnea and a tendency to edematous swellings in various parts of the body. It should never be given lower than the third decimal dilution.

Arsenicum Album.—Sudden sinking of strength; intense internal restlessness with thirst for small quantities of water which is immediately ejected; burning in bowels; cold, clammy perspiration. I prefer to administer *Arsenic* in the form of a tablet triturate, giving one or two grains of the third decimal trituration every one, two or three hours according to the urgency of the symptoms.

Terebinthina.—Excessive distention of the abdomen with weakness and prostration. Turpentine stupes is a well known method of applying *Terebinthina* in peritonitis and they are often most serviceable.

Colocynthis.—Violent cutting, tearing pains in the abdomen relieved by pressure. *Colocynth* is so homœopathic when this type of colic is present that it should never be given lower than the third decimal dilution.

Cantharis.—Frequent and almost continual desire to urinate, ineffectual or with cutting burning pain and passing but a few drops of urine at a time, which is often mixed with blood. One dram of the third decimal dilution in a glass half full of water—a teaspoonful of which is given every one-half, one or two hours, according to the severity of the symptoms.

Lachesis.—Lachesis like all snake poisons has the power to decompose the blood, thereby rendering it more fluid. It is therefore especially indicated in peritonitis of a low form where the system is thoroughly poisoned and the prostration is profound. Tendency to hemorrhage; symptoms are all worse after sleeping; abdomen is tympanitic, sensitive and painful.

Renal Insufficiency.—Renal insufficiency is another complication dreaded by all surgeons. It, too, is many times a preventive condition if the patient is properly prepared for operative work. This presupposes that the urine has been carefully examined previously to operating and that every effort has been made through dieting the patient and encouraging her to consume large quantities of pure soft water to establish the proper functionating of the kidneys. Early proctoclysis, either with the normal salt solution or plain sterile water, is another prophylactic measure of great importance. Care should be observed during the operation to keep the patient's body well protected, and especially to keep the abdominal and pelvic viscera well covered with warm sponge packs. Nevertheless in spite of every possible precaution postoperative renal insufficiency is the *bete noire* of all surgeons. The urine should be examined at least every day for the first four or five days following a serious operation. If the per cent. of solid matter and urea excreted is low, and if there is evidently a good deal of kidney irritation as indicated by casts, albumen, etc., active treatment should at once be instituted. This consists of relieving the kidneys as much as possible by the supplementary action of the bowels, of hot stupes over the lumbar region, of salt solution under the skin if the symptoms are alarming, or, in the worst cases, of salt solution intravenously administered. Here, as in peritonitis, I believe that Homœopathy offers a list of remedies invaluable to the surgeon because of their specific action upon the kidneys. The more important ones are: *Cantharis, Terebinthina, Arsenicum Album, Apis Mellifica, Mercurius Corrosivus* and *Cuprum Arsenicum.*

The indications for the first four of these remedies do not differ from those already given under the head of peritonitis.

Glonoin, not homœopathic in its action, is useful in acute nephritis when the vascular pressure is high and only then. Physiological doses are required.

Cuprum Arsenicum is indicated in uremic convulsions with distressing gastro-intestinal symptoms. There is violent abdominal pain which may be attended with diarrhea. It should not be given lower than the sixth decimal dilution.

Mercurius Corrosivus is called for when the urine is scant and albuminous with marked rectal tenesmus.

Where dysuria is a marked symptom remedies like *Cantharis, Terebinthina, Hyoscyamus* and *Belladonna* will be found useful.

In the worst cases it may be necessary, in order to eliminate the retained poisons through the skin, to resort to hypodermatic injections of *Jaborandi,* or its alkaloid, *Pilocarpin.*

Acute Dilatation of the Stomach.—Acute dilatation of the stomach is sometimes met with following abdominal operations. It usually occurs during the first three days of convalescence and the pain, spasmodic in character, is most distressing. There is distention in the substernal region; the pulse is rapid and weak and the patient's condition unless speedily relieved becomes rapidly serious. It is due probably to some displacement of the organ, the contents of the stomach being retained instead of passing through the pylorus. The treatment which usually affords immediate relief is the use of the stomach tube, and stomach irrigation with the normal salt solution. Should the tendency to dilatation persist, *Magnesia Phosphorica,* in one of the lower potencies, will be found an excellent remedy, especially if the pains are of a spasmodic character.

If *intestinal obstruction* is not overcome by less radical measures, the abdomen should be reopened before the patient's condition becomes too serious. After fecal vomiting is established and the patient becomes cold and clammy from toxemia the mortality attending the second operation is always very high.

Phlebitis.—*Phlebitis* is another complication dreaded by all surgeons. It can in a measure be prevented by urging the patient to move about in bed as soon as she can do so without too much distress, and especially to move the lower limbs a good many

times during the day and night. Its onset is characterized by cutting pain in the groin, with tenderness in the region of the femoral vessels, a rise in temperature of from one to two degrees and swelling of the affected limb or limbs. The *treatment* is to carefully bandage the limb from below upwards, to keep it elevated and to give internally either *Hamamelis, Apis Mellifica, Belladonna, Pulsatilla* or *Lachesis.*

Hamamelis is indicated in all conditions of venous congestion, hemorrhage, varicose veins and hemorrhoids where there is a feeling of a bruised soreness of the affected parts.

Apis Mellifica.—Where there is edema with stinging, burning pains.

Belladonna.—Where the pains are of a shooting, darting character.

Pulsatilla.—Where there is gastro-intestinal disturbance with tensive pain in the thighs and legs, the pain shifting rapidly.

Lachesis.—*Lachesis* is especially called for if the septic condition is pronounced.

The nurse should be instructed not to massage the limbs for there is danger in so doing of dislodging the thrombi.

Local Suppuration.—Local suppuration may occur either deep in the pelvis, in the cul-de-sac of Douglas, in the broad ligaments or in the abdominal wound. When it occurs deep in the pelvis it will be necessary to wait until the pus becomes circumscribed and is shut off from the free abdominal cavity before discharging it. This should always be done through the vagina if possible. In abdominal wound irritation and suppuration, the onset is usually suggested by a preceding rise in the temperature with local swelling, heat and redness. When this condition is present, one or more of the tension sutures in the immediate vicinity of the infected area should be removed and Iodin and hot antiseptic compresses applied. *Hepar Sulphur* is the indicated internal remedy. This treatment will many times abort the suppurative process; or if it is already established, limit it to a small area. As soon as there is evidence of pus it should be liberated.

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